MAGNAVOX

SERVICE MANUAL

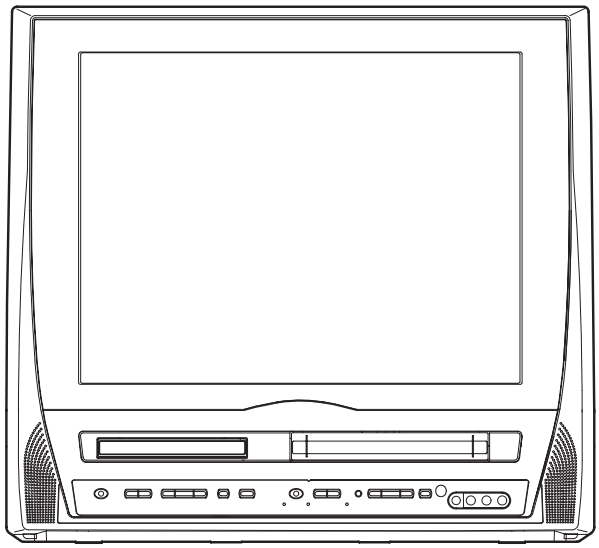
Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's
- Exploded Views
- Parts List

When servicing the deck mechanism, refer to MK14 Deck Mechanism Section.

Deck Mechanism Part No.: N2466FT

20″ ANALOG/DIGITAL PURE FLAT COLOR TV/DVD/VCR

CT202MW8



VHS

IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

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MAIN SECTION

20″ ANALOG/DIGITAL PURE FLAT COLOR TV/DVD/VCR

CT202MW8

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- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**
- **Exploded Views**
- **Parts List**

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SPECIFICATIONS

✳ Mode---------SP mode unless otherwise specified

✳ Test input terminal
<Except Tuner>--------Video input (1 Vp-p)
Audio input (-10 dB)
<Tuner>----------Ant. input (80 dBμV) Video: 87.5%
Audio: 25 kHz dev. (1 kHz Sin)

< DEFLECTION >

Description	Condition	Unit	Nominal	Limit
1. Over Scan	Horizontal	%	90	±5
	Vertical	%	90/88	±5
2. Linearity	Horizontal	%	0	±18
	Vertical	%	0	±10
3. High Voltage	---	kV	25.5	+3/-7

< VIDEO & CHROMA >

Description	Condition	Unit	Nominal	Limit
1. Misconvergence	Center	m/m	0	0.4
	Corner	m/m	0	2.5
	Side	m/m	0	1.5
2. Tint Control Range	---	deg	±30	>+23/<-23
3. Contrast Control Range	---	dB	6	2
4. Brightness (100% White Full Field)	Contrast: Max	ft-L	28	24
5. Color Temperature	---	K	9200	---

< DVD > Measurement at Loader PCB CN2-3pin, 4pin (Audio) and Loader PCB CN2-6pin, 8pin (Video)

Description		Condition	Unit	Nominal	Limit
1. Horizontal Resolution (TDV-540 TIT.2 CHP.16)		---	Line	350	330
2. Video S/N (TDV-540 TIT.2 CHP.6)		---	dB	60	55
3. S/N Chroma (TDV-540 TIT.2 CHP.17)	AM	---	dB	58	53
	PM	---	dB	58	53
4. Audio Distortion (LPCM 48 kHz, W/LPF) (PTD 1-NOR TIT.1 CHP.1)		L R	%	0.03	0.07
5. Audio freq. Response (LPCM 48 kHz) (PTD 1-NOR TIT.1 CHP.1, 5, 10)		L, 20 Hz R, 20 Hz L, 20 kHz R, 20 kHz	dB	0	+4/-5
6. Audio S/N (LPCM 48 kHz,W/LPF,A-WTD) (PTD 1-NOR TIT.1 CHP.1, 2)		L R	dB	85	75

< TUNER > Measurement at Speaker (Audio), TP1401 (Video)

Description	Condition	Unit	Nominal	Limit
1. Video S/N (80 dBμV, TV4ch)	---	dB	45	40
2. Audio S/N (W/LPF, 15 kHz dev.)	---	dB	45	40

< VCR > Measurement at TP1401 (Video)

Description		Condition	Unit	Nominal	Limit
1. Horizontal Resolution		(R/P, SP)	Line	230	200
2. Jitter (Low)		(R/P, SP)	μs	0.1	0.2
3. S/N Chroma	AM	(R/P, SP)	dB	38	33
	PM	(R/P, SP)	dB	38	33
4. Wow & Fiutter (JIS, UNWTD)		(R/P, SP)	%	0.25	0.5

< VCR NORMAL AUDIO>

All items are measured across 8 Ω resistor at speaker output terminal.

Description		Condition	Unit	Nominal	Limit
1. Audio Output Power		(R/P, SP)	W	1.0	0.8
2. Audio S/N (W/LPF)		(R/P, SP)	dB	40	36
3. Audio distortion (W/LPF, -10 dB 1 kHz IN)		(R/P, SP)	%	3.0	5.0
4. Audio Freq. Response (-20dB 1kHz IN)	200 Hz	(R/P, SP)	dB	-2.0	-2.0±5.0
	8 kHz	(R/P, SP)	dB	0	0±6.0

< VCR Hi-Fi AUDIO >

Description		Condition	Unit	Nominal	Limit
1. Output Level (-10 dB 1 kHz IN)		(R/P, SP)	dB	-8.0	-8±4
2. Audio Distortion (-10 dB 1 kHz IN)		(R/P, SP)	%	0.5	1.0
3. Freq. Response (-15 dB 1 kHz IN)	20 Hz	(R/P, SP)	dB	0	±4
	20 kHz	(R/P, SP)	dB	0	±4

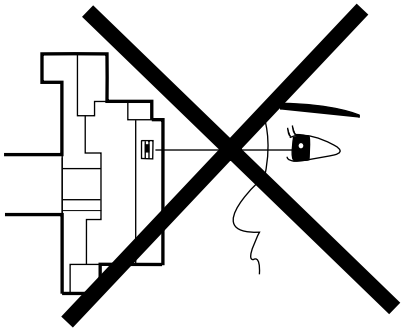
< ATSC > Measurement at Speaker (Audio)

Description	Condition	Unit	Nominal	Limit
1. RECEIVED FREQ. RANGE (-28dBm)	+	kHz	150	>100
	–	kHz	150	>100
2. ATSC DYNAMIC RANGE (min./max.)				
VHF LOW BAND. CH.4	---	dBμV	26/114	32/108
VHF HI BAND. CH.10		dBμV	26/114	32/108
UHF BAND. CH.41		dBμV	28/118	34/112
3. ATSC SUSCEPTIBILITY TO RANDOM NOISE				
VHF LOW BAND. CH.4	---	dB	20	<26
VHF HI BAND. CH.10		dB	20	<26
UHF BAND. CH.41		dB	20	<26
4. NTSC CO-CHANNEL INTERFERENCE				
VHF LOW BAND. CH.4	---	dB	0	>-6
VHF HI BAND. CH.10		dB	0	>-6
UHF BAND. CH.41		dB	0	>-6
5. MULTIPATH	A	dB	0	<6
	B	dB	0	<6
	C	dB	0	<6
	D	dB	0	<6
	E	dB	0	<6
	F	dB	0	<6
	FF	dB	0	<6
	G	dB	0	<6
6. Audio S/N (0dBfs)	L	dB	60	>50
	R	dB	60	>50
7. Audio DIST. (0dBfs)	L	%	0.1	<3
	R	%	0.1	<3

Note: Nominal specifications represent the design specifications. All units should be able to approximate these. Some will exceed and some may drop slightly below these specifications. Limit specifications represent the absolute worst condition that still might be considered acceptable. In no case should a unit fail to meet limit specifications.

LASER BEAM SAFETY PRECAUTIONS

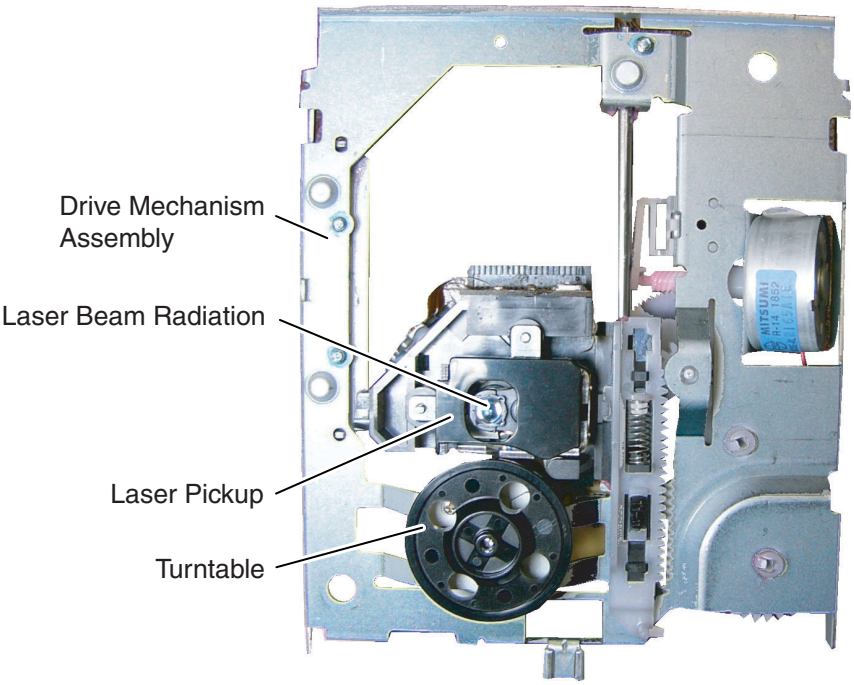
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30 cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

CAUTION: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

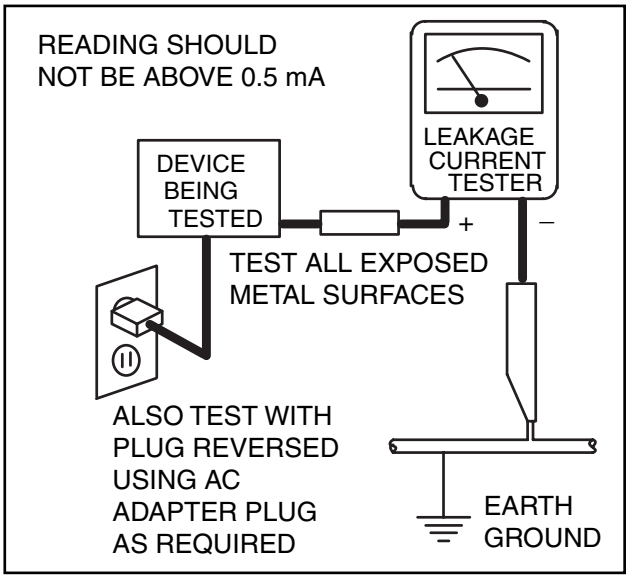
Location: Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Prior to shipment from the factory, our products are strictly inspected for recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Safety Precautions for TV Circuit

1. **Before returning an instrument to the customer,** always make a safety check of the entire instrument, including, but not limited to, the following items:
   - **a.** Be sure that no built-in protective devices are defective and have been defeated during servicing. (1) Protective shields are provided on this chassis to protect both the technician and the customer. Correctly replace all missing protective shields, including any removed for servicing convenience. (2) When reinstalling the chassis and/or other assembly in the cabinet, be sure to put back in place all protective devices, including but not limited to, nonmetallic control knobs, insulating fishpapers, adjustment and compartment covers/shields, and isolation resistor/capacitor networks. **Do not operate this instrument or permit it to be operated without all protective devices correctly installed and functioning. Servicers who defeat safety features or fail to perform safety checks may be liable for any resulting damage.**
   - **b.** Be sure that there are no cabinet openings through which an adult or child might be able to insert their fingers and contact a hazardous voltage. Such openings include, but are not limited to, (1) spacing between the picture tube and the cabinet mask, (2) excessively wide cabinet ventilation slots, and (3) an improperly fitted and/or incorrectly secured cabinet back cover.
   - **c. Antenna Cold Check -** With the instrument AC plug removed from any AC source, connect an electrical jumper across the two AC plug prongs. Place the instrument AC switch in the on position. Connect one lead of an ohmmeter to the AC plug prongs tied together and touch the other ohmmeter lead in turn to each tuner antenna input exposed terminal screw and, if applicable, to the coaxial connector. If the measured resistance is less than 1.0 megohm or greater than 5.2 megohm, an abnormality exists that must be corrected before the instrument is returned to the customer. Repeat this test with the instrument AC switch in the off position.
   - **d. Leakage Current Hot Check -** With the instrument completely reassembled, plug the AC line cord directly into a 120 V AC outlet. (Do not use an isolation transformer during this test.) Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI) C101.1 Leakage Current for Appliances and Underwriters Laboratories (UL) 1410, (50.7). With the instrument AC switch first in the on position and then in the off position, measure from a known earth ground (metal water pipe, conduit, etc.) to all exposed metal parts of the instrument (antennas, handle brackets, metal cabinet, screw heads, metallic overlays, control shafts, etc.), especially any exposed metal parts that offer an electrical return path to the chassis. Any current measured must not exceed 0.5 milli-ampere. Reverse the instrument power cord plug in the outlet and repeat the test.



ANY MEASUREMENTS NOT WITHIN THE LIMITS SPECIFIED HEREIN INDICATE A POTENTIAL SHOCK HAZARD THAT MUST BE ELIMINATED BEFORE RETURNING THE INSTRUMENT TO THE CUSTOMER OR BEFORE CONNECTING THE ANTENNA OR ACCESSORIES.

- **e. X-Radiation and High Voltage Limits -** Because the picture tube is the primary potential source of X-radiation in solid-state TV receivers, it is specially constructed to prohibit X-radiation emissions. For continued X-radiation protection, the replacement picture tube must be the same type as the original.

Also, because the picture tube shields and mounting hardware perform an X-radiation protection function, they must be correctly in place. High voltage must be measured each time servicing is performed that involves B+, horizontal deflection or high voltage. Correct operation of the X-radiation protection circuits also must be reconfirmed each time they are serviced. (X-radiation protection circuits also may be called “horizontal disable” or “hold down.”) Read and apply the high voltage limits and, if the chassis is so equipped, the X-radiation protection circuit specifications given on instrument labels and in the Product Safety & X-Radiation Warning note on the service data chassis schematic. High voltage is maintained within specified limits by close tolerance safety-related components/ adjustments in the high-voltage circuit. If high voltage exceeds specified limits, check each component specified on the chassis schematic and take corrective action.

2. Read and comply with all caution and safety-related notes on or inside the receiver cabinet, on the receiver chassis, or on the picture tube.
3. **Design Alteration Warning -** Do not alter or add to the mechanical or electrical design of this TV receiver. Design alterations and additions, including, but not limited to circuit modifications and the addition of items such as auxiliary audio and/or video output connections, might alter the safety characteristics of this receiver and create a hazard to the user. Any design alterations or additions will void the manufacturer's warranty and may make you, the servicer, responsible for personal injury or property damage resulting therefrom.
4. **Picture Tube Implosion Protection Warning -** The picture tube in this receiver employs integral implosion protection. For continued implosion protection, replace the picture tube only with one of the same type number. Do not remove, install, or otherwise handle the picture tube in any manner without first putting on shatterproof goggles equipped with side shields. People not so equipped must be kept safely away while picture tubes are handled. Keep the picture tube away from your body. Do not handle the picture tube by its neck. Some “in-line” picture tubes are equipped with a permanently attached deflection yoke; because of potential hazard, do not try to remove such “permanently attached” yokes from the picture tube.
5. **Hot Chassis Warning -**
   a. Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord and maybe safety-serviced without an isolation transformer only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC power source. To confirm that the AC power plug is inserted correctly, with an AC voltmeter, measure between the chassis and a known earth ground. If a voltage reading in excess of 1.0V is obtained, remove and reinsert the AC power plug in the opposite polarity and again measure the voltage potential between the chassis and a known earth ground.
   b. Some TV receiver chassis normally have 85V AC(RMS) between chassis and earth ground regardless of the AC plug polarity. This chassis can be safety-serviced only with an isolation transformer inserted in the power line between the receiver and the AC power source, for both personnel and test equipment protection.
   c. Some TV receiver chassis have a secondary ground system in addition to the main chassis ground. This secondary ground system is not isolated from the AC power line. The two ground systems are electrically separated by insulation material that must not be defeated or altered.
6. Observe original lead dress. Take extra care to assure correct lead dress in the following areas: a. near sharp edges, b. near thermally hot parts-be sure that leads and components do not touch thermally hot parts, c. the AC supply, d. high voltage, and, e. antenna wiring. Always inspect in all areas for pinched, out of place, or frayed wiring. Check AC power cord for damage.
7. Components, parts, and/or wiring that appear to have overheated or are otherwise damaged should be replaced with components, parts, or wiring that meet original specifications. Additionally, determine the cause of overheating and/or damage and, if necessary, take corrective action to remove any potential safety hazard.
8. **Product Safety Notice -** Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The product's safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are strictly inspected to confirm they comply with the recognized product safety and electrical codes

of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety.
Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:
1) Wires covered with PVC tubing
2) Double insulated wires
3) High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:
1) Insulation Tape
2) PVC tubing
3) Spacers
4) Insulators for transistors.

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heat sinks, oxide metal film resistors, fusible resistors, etc.)

G. Check that replaced wires do not contact sharp edged or pointed parts.

H. When a power cord has been replaced, check that 5~6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
When replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, in order to prevent shock hazards, perform carefully and precisely the following steps.
Replacement procedure
1) Remove the old connector by cutting the wires at a point close to the connector.
Important: Do not re-use a connector (discard it).
2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.
3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.
4) Use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the DVD/VCR connectors, first, disconnect the AC plug from the AC supply socket.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1: Ratings for selected area

AC Line Voltage	Region	Clearance Distance (d), (d')
110 to 130 V	U.S.A. or Canada	≥ 3.2 mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

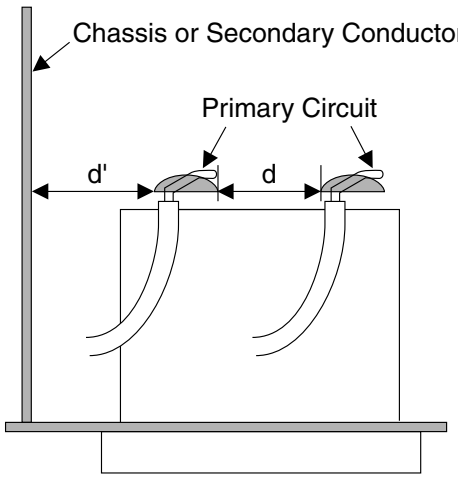


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See Fig. 2 and following table.

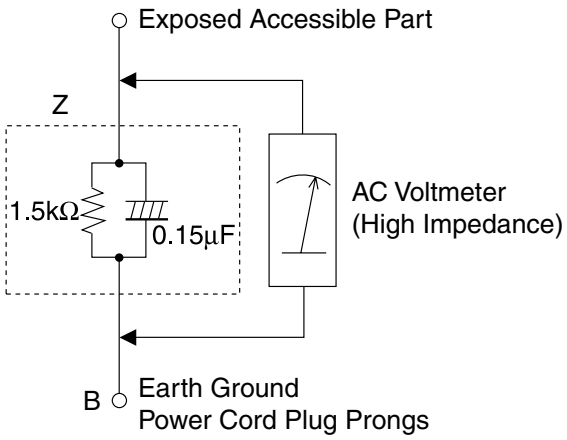


Fig. 2

Table 2: Leakage current ratings for selected areas

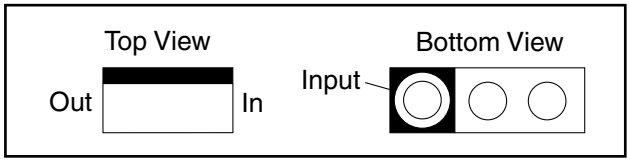
AC Line Voltage	Region	Load Z	Leakage Current (i)	Earth Ground (B) to:
110 to 130 V	U.S.A. or Canada	0.15 μF CAP. & 1.5 kΩ RES. Connected in parallel	i ≤ 0.5 mA rms	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

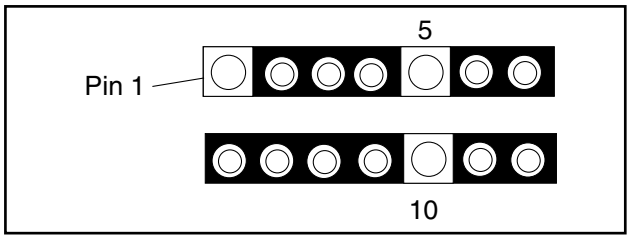
STANDARD NOTES FOR SERVICING

Circuit Board Indications

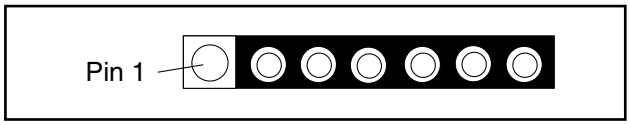
1. The output pin of the 3 pin Regulator ICs is indicated as shown.



2. For other ICs, pin 1 and every fifth pin are indicated as shown.

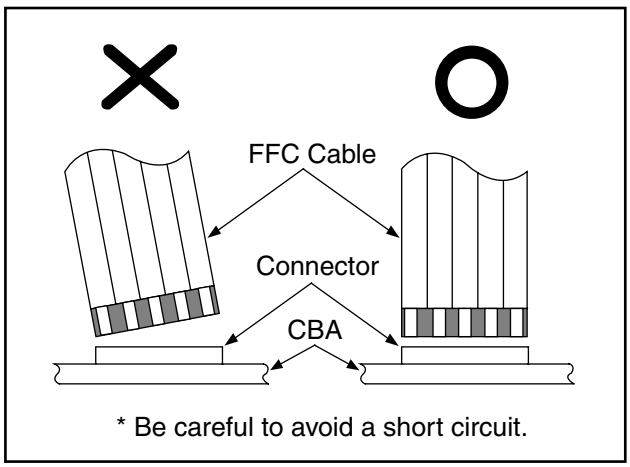


3. The 1st pin of every male connector is indicated as shown.



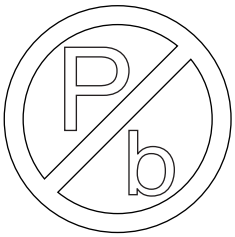
Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



Pb (Lead) Free Solder

Pb free mark will be found on PCBs which use Pb free solder. (Refer to figure.) For PCBs with Pb free mark, be sure to use Pb free solder. For PCBs without Pb free mark, use standard solder.



Pb free mark

How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:

1. Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

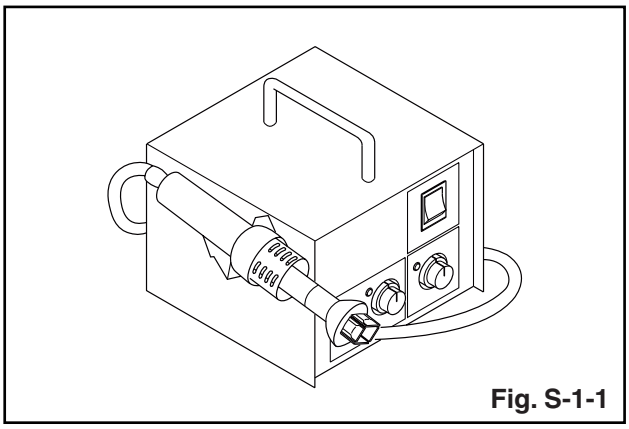


Fig. S-1-1

2. Remove the flat pack-IC with tweezers while applying the hot air.
3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

CAUTION:

1. The Flat Pack-IC shape may differ by models. Use an appropriate hot-air flat pack-IC desoldering machine, whose shape matches that of the Flat Pack-IC.
2. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape

around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)

3. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

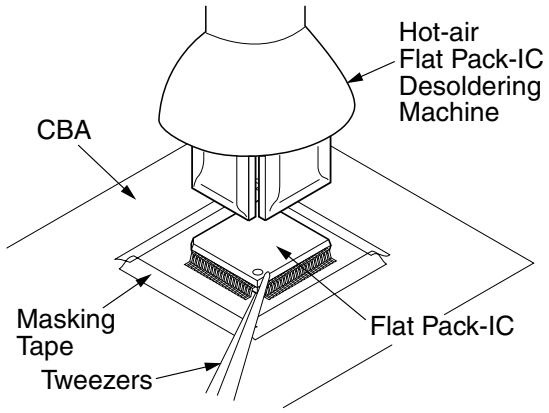


Fig. S-1-2

With Soldering Iron:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

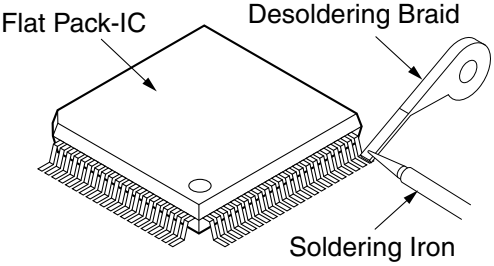


Fig. S-1-3

2. Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

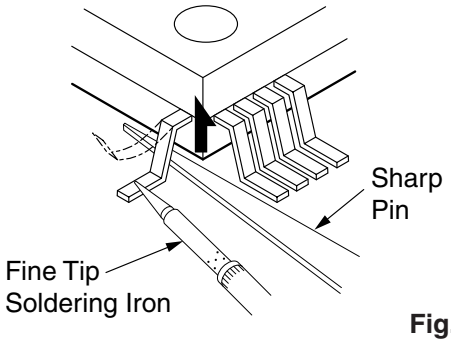


Fig. S-1-4

3. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
4. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

1. Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)
2. Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.
3. While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5.
4. Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)
5. Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note: When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

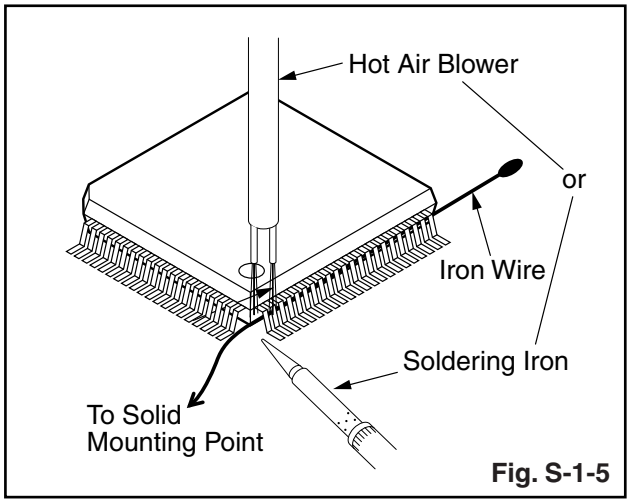


Fig. S-1-5

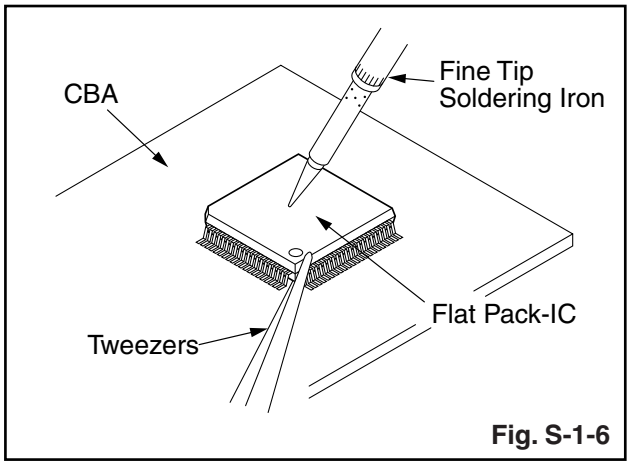


Fig. S-1-6

2. Installation

1. Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.
2. The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)
3. Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

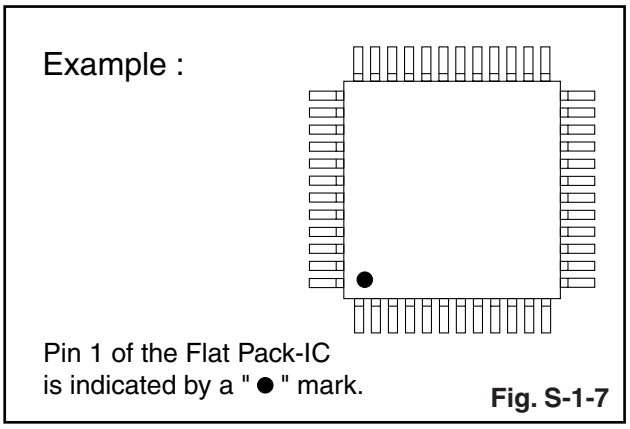


Fig. S-1-7

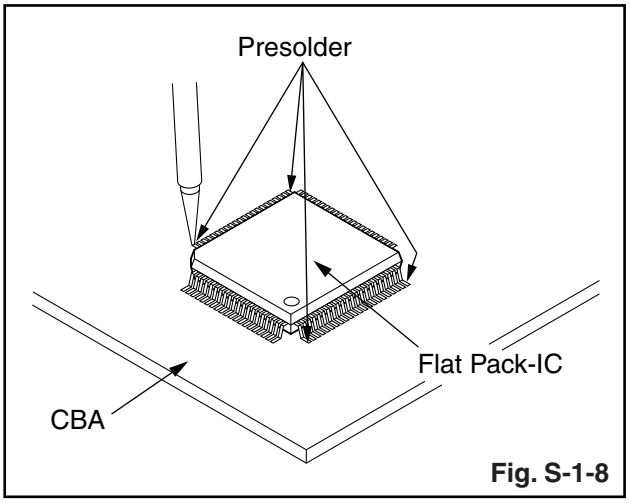


Fig. S-1-8

Instructions for Handling Semi-conductors

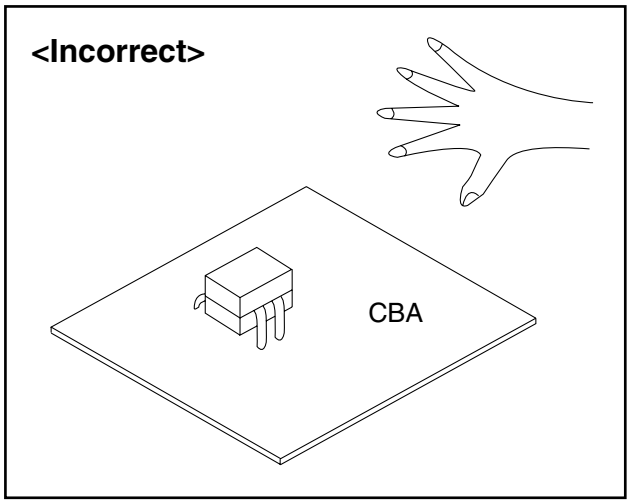
Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

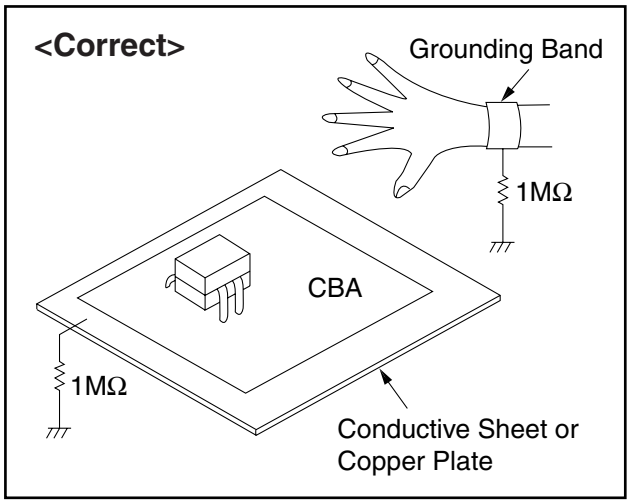
1. Ground for Human Body

Be sure to wear a grounding band (1 MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

2. Ground for Workbench

Be sure to place a conductive sheet or copper plate with proper grounding (1 MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.





PREPARATION FOR SERVICING

How to Enter Service Mode

Caution 1:

1. Optical sensors system are used for Tape Start and End Sensor on this equipment. Read this page carefully and prepare as described on this page before starting to service; otherwise, the unit may operate unexpectedly.

Preparing 1:

1. Cover Q1202 (START SENSOR) and Q1201 (END SENSOR) with Insulation Tape or enter the service mode to activate Sensor Inhibition automatically.

Note: Avoid playing, rewinding or fast forwarding the tape to its beginning or end, because both Tape End Sensors are not active.

How to Enter the Service Mode

1. Turn the power on.
2. Use the service remote control unit and press [DISC MENU] button.
3. When entering the service mode, one of the number (1, 2 or 4) will be displayed at corners of the screen.
4. During Service mode, electrical adjustment mode can be selected by the service remote control unit key.

   Details are as follows.

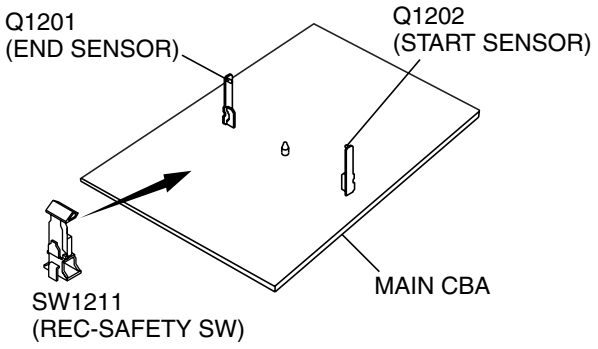
Key	Adjustment Mode
PICTURE	Picture adjustment mode in TV mode or DTV mode: Press the [PICTURE] button to change from BRT (Bright), *CNT (Contrast), *COL (Color), *TNT(Tint), *V-T(V-Tint) and *SHP (Sharpness). Press [CH. ▲/▼] buttons to display Initial Value. *Marked items are not necessary to adjust normally.
0	C-Trap adjustment mode in TV mode: See adjustment instructions.
1	No need to use.
2	H f_0 adjustment mode: See adjustment instructions.
3	U-/V-Pedestal adjustment mode in DTV mode: See adjustment instructions.
4	Auto record mode: Perform recording (15 Sec.) --> Stop --> Rewind (Zero return) automatically.
5	Head switching position adjustment: See adjustment instructions.
6	YUV Brightness up adjustment mode in DTV mode: See adjustment instructions.
7	Purity check mode: Shows Red, Green, Blue or White cyclically on the screen each time the [7] button is pressed.
8	H. Position adjustment: See adjustment instructions.
9	V. Position/V. Size adjustment: See adjustment instructions.
VOL △	No need to use.
VOL ▽	Cut-off/Drive adjustment: See adjustment instructions. White balance adjustment: See adjustment instructions.

Caution 2:

1. The deck mechanism assembly is mounted on the Main CBA directly, and SW1211 (REC-SAFETY SW) is mounted on the Main CBA. When deck mechanism assembly is removed from the Main CBA due to servicing, this switch can not be operated automatically.

Preparing 2:

1. To eject the tape, press the [STOP/EJECT] button on the unit (or remote control).
2. When you want to record during Service mode, press the [REC] button while depressing SW1211 (REC-SAFETY SW) on the Main CBA.



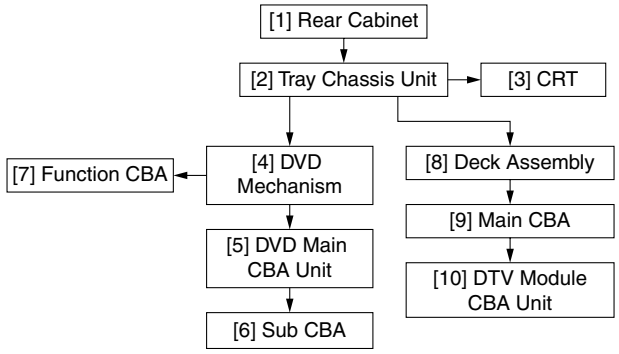
CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps for the cabinet parts, and the CBA in order to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route and dress the cables as they were.

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.



2. Disassembly Method

Step/ Loc. No.	Part	Removal		
		Fig. No.	Remove/*Unhook/ Unlock/Release/ Unplug/Unclamp/ Desolder	Note
[1]	Rear Cabinet	D1	4(S-1), (S-2), (S-3A), (S-3B)	---
[2]	Tray Chassis Unit	D2 D3 D5	Anode Cap, *CN2501, CRT CBA, *CN1601, *CN2571, *CN3801, *CN3802	1
[3]	CRT	D3	4(S-4)	---
[4]	DVD Mechanism	D2 D4 D5	4(S-5), *CN201, *CN301	2, 3
[5]	DVD Main CBA Unit	D2 D4 D5	*CN1, *CN2	---
[6]	Sub CBA	D2 D5	6(S-6), *CN1103, *CN1301, *CN1302	---
[7]	Function CBA	D2 D5	(S-7), *CN2401	---
[8]	Deck Assembly	D2 D5	3(S-8), Top Shield, 7(S-9), (S-10), (S-11), *CL1201, *CL1401, *CL1402, *CL1403	4
[9]	Main CBA	D2 D5	4(S-12)	---
[10]	DTV Module CBA Unit	D2 D5	*CN1101, *CN1102 Module PCB Holder	---
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1) Order of steps in procedure. When reassembling, follow the steps in reverse order. These numbers are also used as the Identification (location) No. of parts in figures.

(2) Parts to be removed or installed.

(3) Fig. No. showing procedure of part location

(4) Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P = Spring, L = Locking Tab, S = Screw,
CN = Connector
* = Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5) Refer to the following “Reference Notes in the Table”.

Reference Notes in the Table

CAUTION!

When removing the CRT, be sure to discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

1. **CAUTION 1:** Discharge the Anode Lead of the CRT with the CRT Ground Wire before removing the Anode Cap.

   Disconnect the following: Anode Cap, CN2501, CRT CBA, CN1601, CN2571, CN3801 and CN3802. Then remove Tray Chassis Unit.
2. **CAUTION 2:** Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

   To avoid damage of pickup follow the next procedures.
   1) Disconnect Connector (CN301) on the DVD Main CBA Unit.
   2) Short the three short lands of the FPC cable with solder before removing the FFC cable (CN201). If you disconnect the FFC cable (CN201) without shorting them, the laser diode of pickup will be destroyed. (Fig. D4)
   3) Remove DVD Mechanism.
3. **CAUTION 3:** When reassembling, confirm the FFC cable (CN201) is connected completely. Then remove the solder from the three short lands of the FPC cable. (Fig. D4)
4. Remove screws 3(S-8) and remove Top Shield. Remove screws 7(S-9), (S-10) and (S-11). Then, desolder connectors (CL1201, CL1401, CL1402, CL1403) and lift up the Deck Assembly.

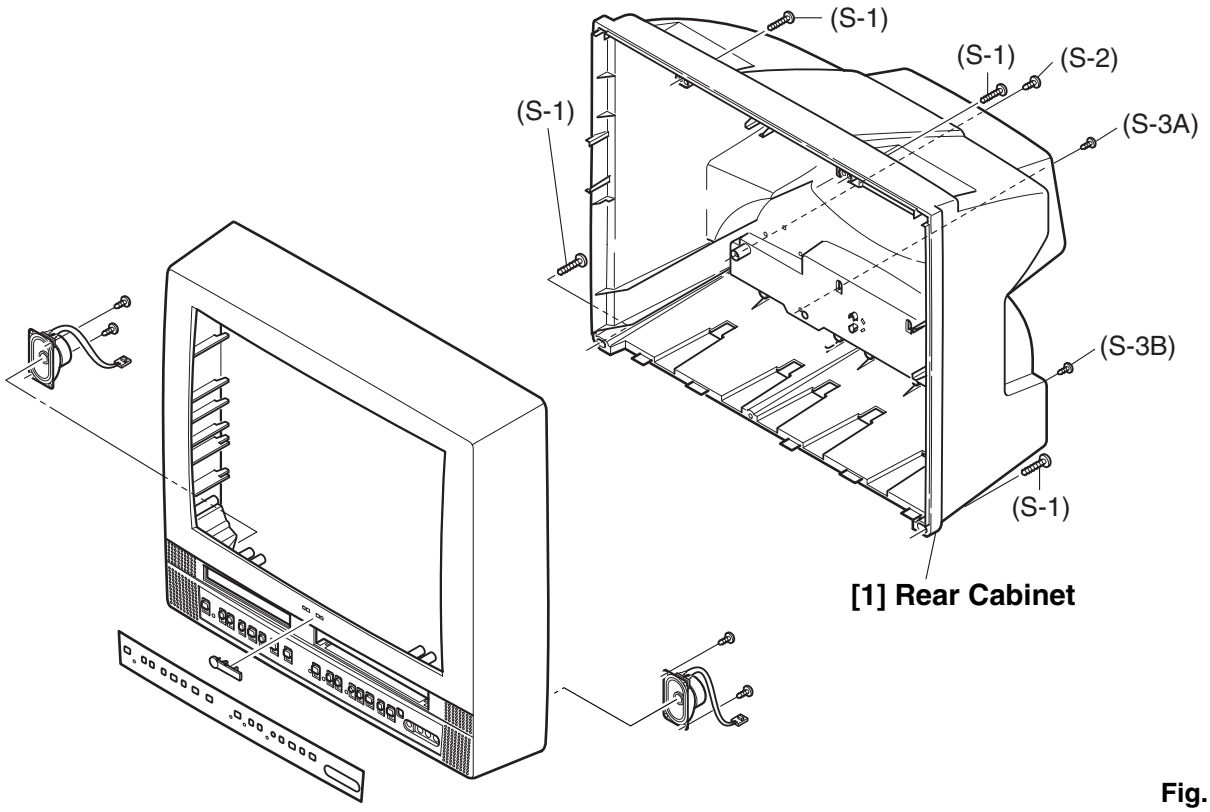


Fig. D1

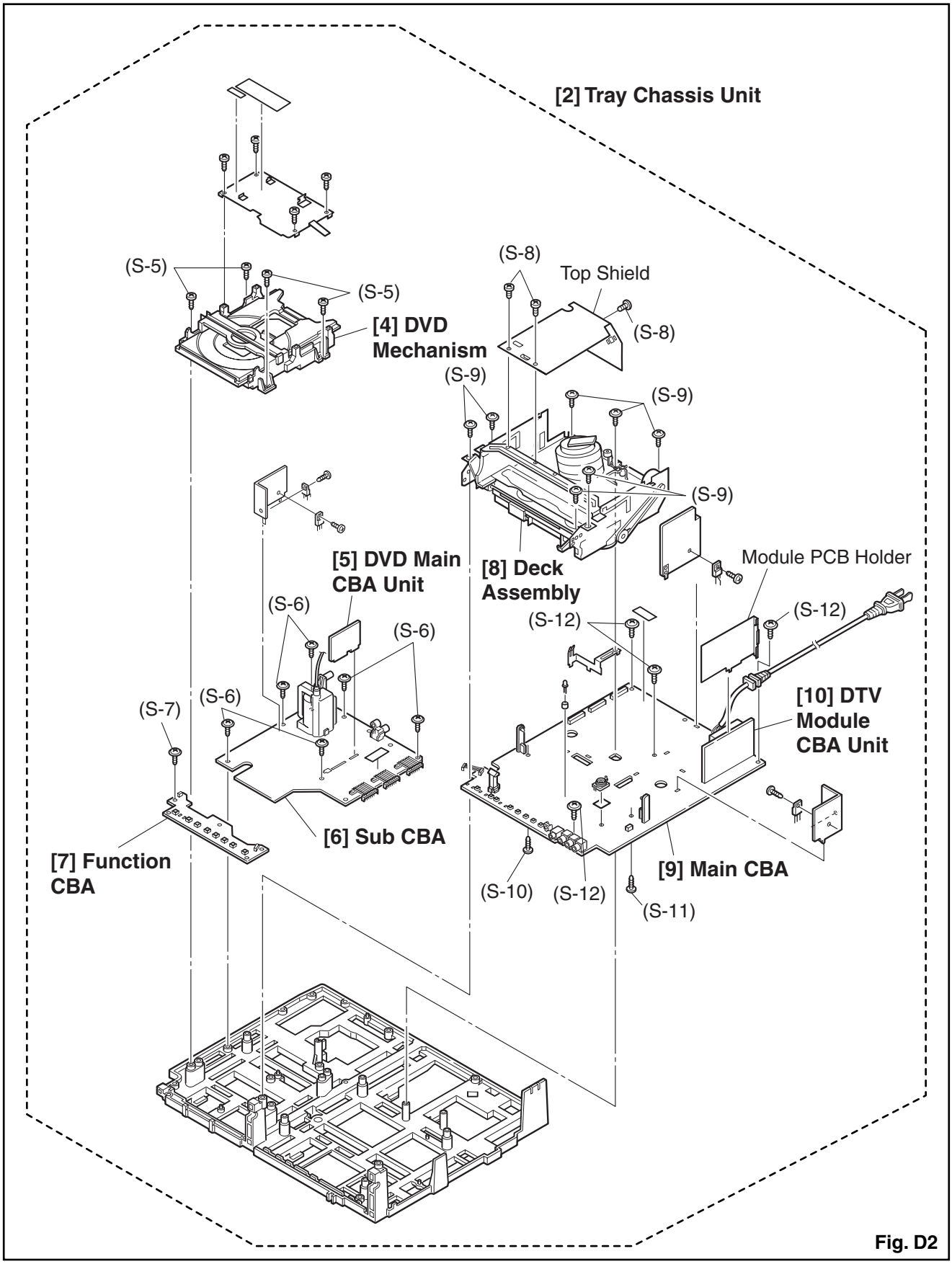

[2] Tray Chassis Unit
(S-5)
(S-5)
[4] DVD Mechanism
(S-8)
Top Shield
(S-8)
(S-9)
(S-9)
(S-9)
[5] DVD Main CBA Unit
[8] Deck Assembly
Module PCB Holder
(S-6)
(S-6)
(S-6)
(S-12)
(S-12)
(S-7)
[10] DTV Module CBA Unit
[6] Sub CBA
[7] Function CBA
[9] Main CBA
(S-10)
(S-12)
(S-11)

Fig. D2

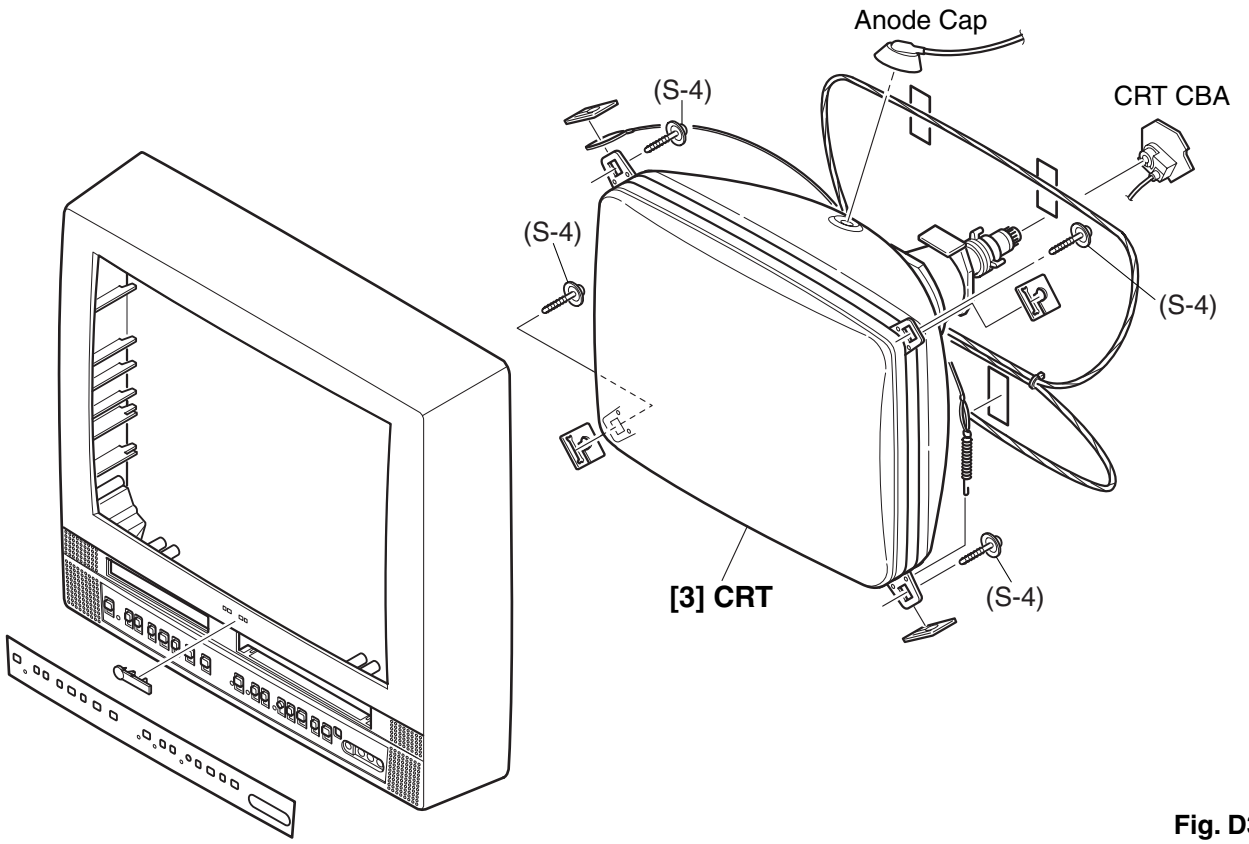
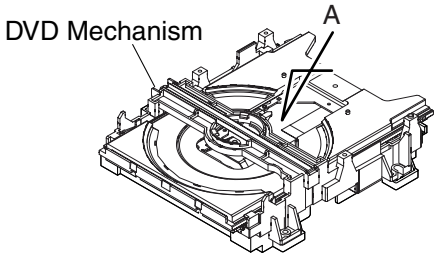

Anode Cap
(S-4)
CRT CBA
(S-4)
(S-4)
[3] CRT
(S-4)

Fig. D3


DVD Mechanism
A

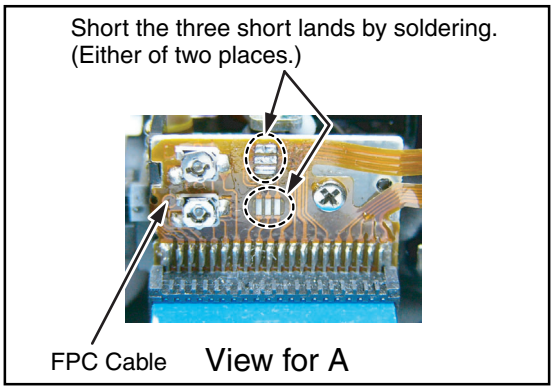

Short the three short lands by soldering.
(Either of two places.)
FPC Cable
View for A

Fig. D4

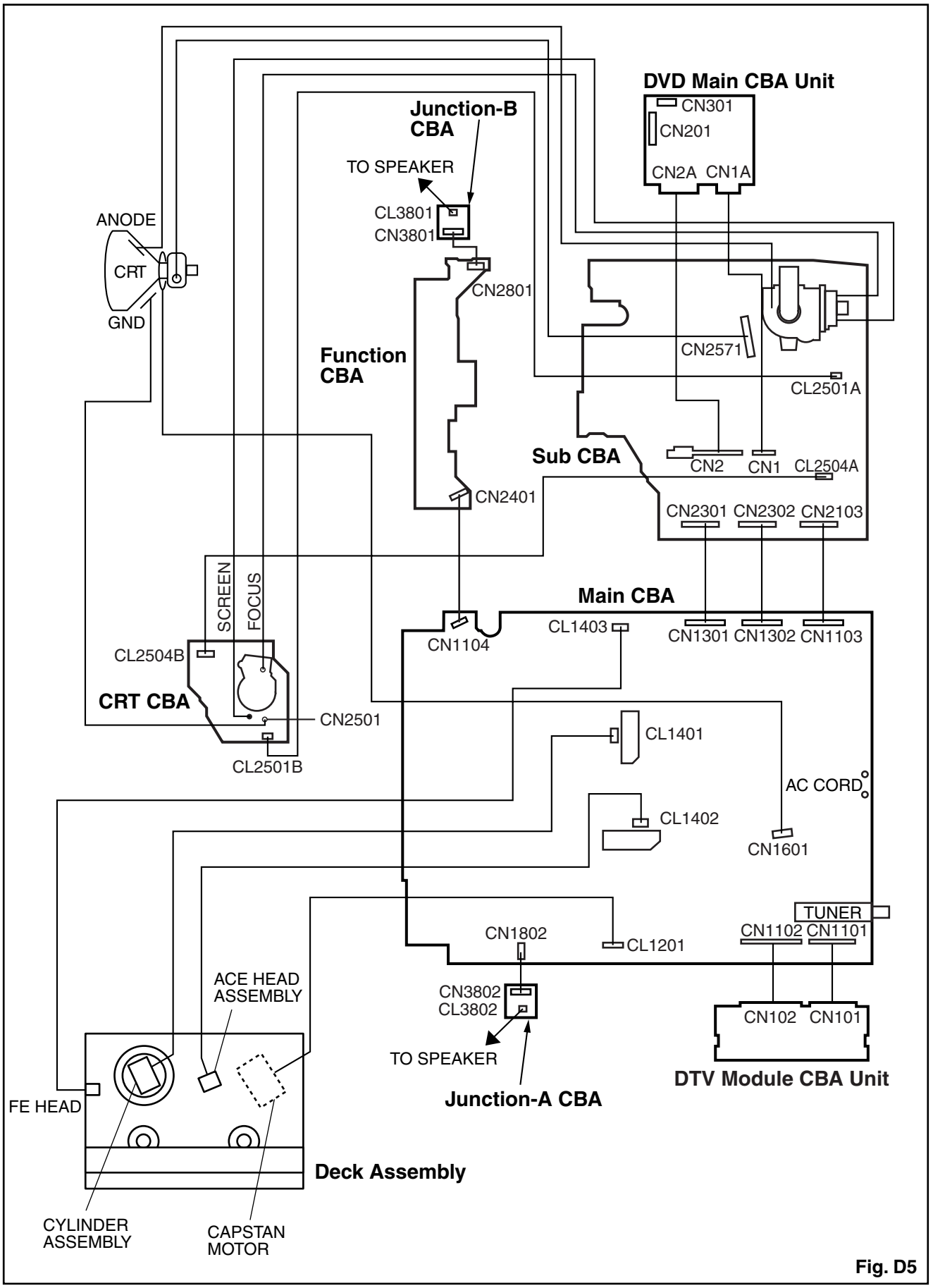

DVD Main CBA Unit
CN301
CN201
CN2A CN1A
Junction-B CBA
TO SPEAKER
CL3801
CN3801
ANODE
CRT
GND
CN2801
Function CBA
CN2571
CL2501A
Sub CBA
CN2
CN1
CL2504A
CN2401
CN2301 CN2302 CN2103
SCREEN
FOCUS
Main CBA
CN1104
CL1403
CN1301 CN1302 CN1103
CL2504B
CRT CBA
CN2501
CL2501B
CL1401
AC CORD
CL1402
CN1601
TUNER
CN1802
CL1201
CN1102 CN1101
ACE HEAD ASSEMBLY
CN3802
CL3802
TO SPEAKER
Junction-A CBA
CN102 CN101
DTV Module CBA Unit
FE HEAD
Deck Assembly
CYLINDER ASSEMBLY
CAPSTAN MOTOR

Fig. D5

ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is abbreviation for "Circuit Board Assembly."

Note: Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed.
Also, do not attempt these adjustments unless the proper equipment is available.

Test Equipment Required

1. NTSC Pattern Generator (Color Bar W/White Window, Red Color, Dot Pattern, Gray Scale, Monoscope, Multi-Burst)
2. AC Milli Voltmeter (RMS)
3. Alignment Tape (FL8A, FL8N), Blank Tape
4. DC Voltmeter
5. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50 V/Div,
   F-Range: DC~AC-60 MHz
6. Frequency Counter
7. Plastic Tip Driver
8. Color Analyzer

How to make the service remote control unit:

1. Prepare normal remote control unit (Part No. NE204UD or NE209UD). Remove 4 screws from the back lid (Fig. 1).

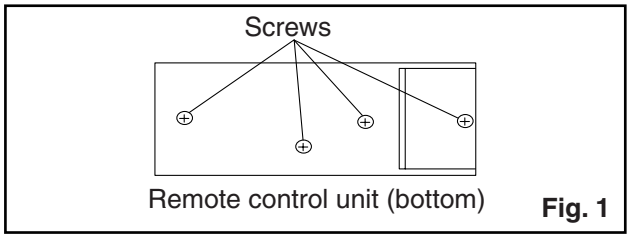


Fig. 1

2. Cut off pin 10 of the remote control microprocessor and short circuit pins 10 and 17 of the microprocessor with a jumper wire.

How to enter Service mode:

Service mode:

1. Use the service remote control unit.
2. Turn the power on. (Use main power on the TV unit.)
3. To change TV mode, DTV mode, or DVD mode, press [SELECT] button on the TV unit.
4. Press [DISC MENU] button on the service remote control unit.

X-Ray Protection Test

X-Ray protection test should be done when replacing any parts of this chassis.

1. Short both ends of R2592 (on Sub CBA).
2. Confirm that the main power turns off.
3. If the main power does not turn off, then replace the following parts (D2591, Q2591, R2592, R2593, R2594 and IC1201).
4. Perform steps 1 to 3 again.

1. DC 114V (+B) Adjustment

Purpose: To obtain correct operation.

Symptom of Misadjustment: The picture is dark and the unit does not operate correctly.

Test Point	Adj. Point	Mode	Input
TP2501(+B) TP2504(GND)	VR1601	---	---
Tape	**M. EQ.**	**Spec.**	
---	DC Voltmeter	+114±1.0 V DC	

Note: TP2501(+B), TP2504(GND) --- Sub CBA,
VR1601 --- Main CBA

1. Connect the unit to AC Power Outlet.
2. Connect DC Voltmeter to TP2501(+B) and TP2504(GND).
3. Adjust VR1601 so that the voltage of TP2501(+B) becomes +114±1.0 V DC.

2. Setting for CONTRAST, COLOR, TINT, V-TINT and SHARPNESS Data Values

<TV mode (Composite block)>

1. Enter Service mode in TV mode.
2. Press [PICTURE] button on the service remote control unit. Display changes “BRT,” “CNT,” “COL,” “TNT,” “V-T,” and “SHP” cyclically when [1] button is pressed.

CONTRAST (CNT)

1. Press [1] button to selcet “CONTRAST (CNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “CONTRAST (CNT)” becomes “80”.

COLOR (COL)

1. Press [1] button to select “COLOR (COL)” display.
2. Press [CH. ▲/▼] buttons so that the value of “COLOR (COL)” becomes “58”.

TINT (TNT)

1. Press [1] button to select “TINT (TNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “TINT (TNT)” becomes “56”.

V-TINT (V-T)

1. Press [1] button to select “V-TINT (V-T)” display.
2. Press [CH. ▲/▼] buttons so that the value of “V-TINT (V-T)” becomes “50”.

SHARPNESS (SHP)

1. Press [1] button to select “SHARPNESS (SHP)” display.
2. Press [CH. ▲/▼] buttons so that the value of “SHARPNESS (SHP)” becomes “43”.

Note: **BRIGHT** data value does not need to be adjusted because this setting is performed in other setting.

<DVD mode (Y-C block)>

1. Enter Service mode in DVD mode.
2. Press [PICTURE] button on the service remote control unit. Display changes “YC-BRT,” “YC-CNT,” “YC-COL,” “YC-TNT,” and “YC-SHP” cyclically when [2] button is pressed.

YC-CONTRAST (YC-CNT)

1. Press [2] button to selcet “YC-CONTRAST (YC-CNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-CONTRAST (YC-CNT)” becomes “75”.

YC-COLOR (YC-COL)

1. Press [2] button to select “YC-COLOR (YC-COL)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-COLOR (YC-COL)” becomes “70”.

YC-TINT (YC-TNT)

1. Press [2] button to select “YC-TINT (YC-TNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-TINT (YC-TNT)” becomes “50”.

YC-SHARPNESS (YC-SHP)

1. Press [2] button to select “YC-SHARPNESS (YC-SHP)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YC-SHARPNESS (YC-SHP)” becomes “37”.

<DTV mode (YUV block)>

1. Enter Service mode in DTV mode.
2. Press [PICTURE] button on the service remote control unit. Display changes “YUV-BRT,” “YUV-CNT,” “YUV-COL,” “YUV-TNT,” and “YUV-SHP” cyclically when [3] button is pressed.

YUV-CONTRAST (YUV-CNT)

1. Press [3] button to selcet “YUV-CONTRAST (YUV-CNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-CONTRAST (YUV-CNT)” becomes “80”.

YUV-COLOR (YUV-COL)

1. Press [3] button to select “YUV-COLOR (YUV-COL)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-COLOR (YUV-COL)” becomes “58”.

YUV-TINT (YUV-TNT)

1. Press [3] button to select “YUV-TINT (YUV-TNT)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-TINT (YUV-TNT)” becomes “64”.

YUV-SHARPNESS (YUV-SHP)

1. Press [3] button to select “YUV-SHARPNESS (YUV-SHP)” display.
2. Press [CH. ▲/▼] buttons so that the value of “YUV-SHARPNESS (YUV-SHP)” becomes “45”.

3. C-Trap Adjustment

Purpose: To get minimum leakage of the color signal carrier.

Symptom of Misadjustment: If C-Trap Adjustment is incorrect, stripes will appear on the screen.

Test Point	Adj. Point	Mode	Input
TP1301 (BLUE)	[CH ▲ / ▼] buttons	---	Color Bar
Tape	**M. EQ.**	**Spec.**	
---	Oscilloscope Pattern Generator	---	

Figure

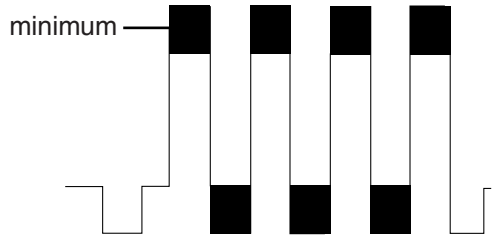


Fig. 2

Note: TP1301(BLUE) --- Sub CBA

1. Connect oscilloscope to TP1301.
2. Input a color bar signal from RF input. Enter Service mode.
3. Enter the Service mode in TV mode.
4. Press [0] button on the service remote control unit and select C-TRAP mode. (Display changes “C-TRP,” “D-T TV,” “D-T EXT,” “Y SW,” “B-S,” “BS2,” and “C-ANG” cyclically when [0] button is pressed.)
5. Press [CH ▲ / ▼] buttons on the remote control unit so that the carrier leakage B-Out (3.58 MHz) value becomes minimum on the oscilloscope.

4. H f_0 Adjustment

Purpose: To get correct horizontal position and size of screen image.

Symptom of Misadjustment: Horizontal position and size of screen image may not be properly displayed.

Test Point	Adj. Point	Mode	Input
R2583	[CH. ▲ / ▼] buttons	Video	---
Tape	**M. EQ.**	**Spec.**	
---	Frequency Counter	15.734 kHz±300 Hz	

Note: R2583 --- Sub CBA

1. Connect frequency counter to R2583 and ground.
2. Operate the unit for at least 20 minutes.
3. Enter the Service mode in TV mode.
4. Press [2] button on the service remote control unit and select H-ADJ mode.
5. Press [CH. ▲/▼] buttons on the service remote control unit so that the display will change “0” to “7.”
6. At this moment, choose display “0” to “7” when the frequency counter display is closest to 15.734 kHz ±300 Hz.

5. Cut-off/Drive Adjustment

Purpose: To adjust the beam current of R, G, B, and screen voltage.

Symptom of Misadjustment: White color may be reddish, greenish or bluish.

Test Point	Adj. Point	Mode	Input
---	Screen-Control [CH. ▲ / ▼] buttons	RF	Black Raster
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See Reference Notes below.	
Figure			

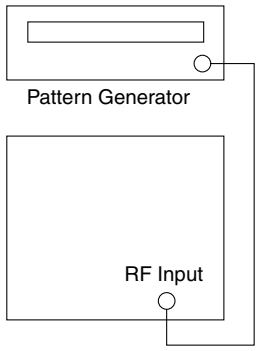


Fig. 2

Note: Screen Control FBT --- Sub CBA
FBT = Fly Back Transformer
Use the service remote control unit

1. Degauss the CRT and allow the unit to operate for 20 minutes before starting the alignment.
2. Input the Black raster signal from RF input.
3. Enter the Service mode in TV mode.
4. Press [VOL ▽] button on the service remote control to enter "C/D" mode. (Display changes "C/D," "7f," "TUNER," "SLP R," "MONO," "DTV-H/-H2," "RATING," "RC5" "DL V-CHIP," and "D-SOUND" cyclically when [VOL ▽] button is pressed.)
5. Press [1] button on the service remote control unit and select "COR" mode.The display will momentarily show "COR". Now there should be a horizontal line across the center of the picture tube. If needed, turn the screen control on the flyback in a clockwise direction gradually until the horizontal line appears. Adjust the Red Cut off by pressing the "[CH. ▲ / ▼]" buttons. Proceed to Step 6 when the Red Cut off adjustment is done.
6. Press [2] button on the service remote control unit and select "COG" mode. The display will momentarily show "COG". Adjust the Green Cut off by pressing the "[CH. ▲ / ▼]" buttons. Proceed to step 7 when the Green Cut off adjustment is done.
7. Press [3] button on the service remote control unit and select "COB" mode. The display will momentarily show "COB". Adjust the Blue cut off by pressing the "[CH. ▲ / ▼]" buttons. When done with steps 5, 6 and 7 the horizontal line should be pure white, If not, then attempt the Cut off adjustment again.

6. White Balance Adjustment

Purpose: To mix red, green and blue beams correctly for pure white.

Symptom of Misadjustment: White becomes bluish or reddish.

Test Point	Adj. Point	Mode	Input
Screen	[CH. ▲/▼] buttons	RF	White Raster (APL 100%)
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator, Color analyzer	See below	
Figure			

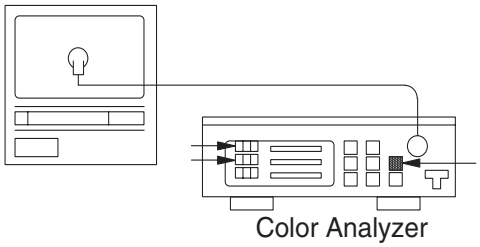


Fig. 3

Note: Use the service remote control unit

1. Operate the unit more than 20 minutes.
2. Face the unit to the east. Degauss the CRT using a degaussing coil.
3. Input the White Raster (APL 100%).
4. Set the color analyzer to the CHROMA mode and after zero point calibration, bring the optical receptor to the center on the tube surface (CRT).
5. Enter the Service mode in TV Mode.
6. Press [VOL ▽] button on the service remote control to enter "C/D" mode. (Display changes "C/D," "7f," "TUNER," "SLP R," "MONO," "DTV-H/-H2," "RATING," "RC5" "DL V-CHIP," and "D-SOUND" cyclically when [VOL ▽] button is pressed.)
7. Press [4] button on the service remote control unit for Red adjustment. Press [5] button on the service remote control unit for Blue adjustment.
8. In each color mode, press [CH. ▲/▼] buttons to adjust the values of color.

9. Adjust Red and Blue color so that the temperature becomes 9200K (x: 286 / y: 294) ±3%.
10. At this time, check if horizontal line is white. If not, adjust Cut-off Adjustment until the horizontal line becomes pure white.
11. Turn off and on again to return to the normal mode. Receive APL 100% white signal and confirm that Chroma temperatures become 9200K (x: 286 / y: 294) ±3%.

Note: Confirm that Cut Off Adj. is correct after this adjustment, and attempt Cut Off Adj, if needed.

7. Sub-Brightness Adjustment

Purpose: To get proper brightness.

Symptom of Misadjustment: If Sub-Brightness is incorrect, proper brightness cannot be obtained by adjusting the Brightness Control.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	RF	SMPTE 7.5IRE
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Figure

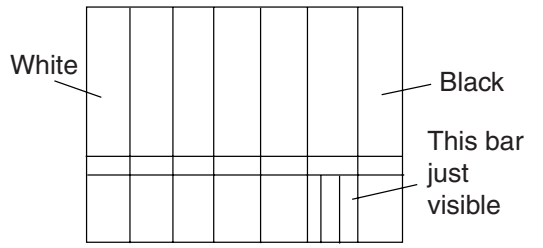


Fig. 4

Note: SMPTE Setup level --- 7.5 IRE

1. Enter the Service mode.
   Then input SMPTE signal from RF input.
2. Press [PICTURE] button on the service remote control unit.
3. Press [1] button on the service remote control unit and selcet “BRT” mode. (Display changes “BRT,” “CNT,” “COL,” “TNT,” “V-T,” and “SHP” cyclically when [1] button is pressed.)
4. Press [CH ▲/▼] buttons so that the bar is just visible (See above figure).

8. Focus Adjustment

Purpose: Set the optimum Focus.

Symptom of Misadjustment: If Focus Adjustment is incorrect, blurred images are shown on the display.

Test Point	Adj. Point	Mode	Input
---	Focus Control	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	

Note: Focus Control FBT --- Sub CBA
FBT = Fly Back Transformer

1. Operate the unit more than 30 minutes.
2. Face the unit to the East and degauss the CRT using a degaussing coil.
3. Input the monoscope pattern.
4. Adjust the focus control on the FBT to obtain a clear picture.

9. H. Position Adjustment

Purpose: To obtain correct horizontal position of screen image.

Symptom of Misadjustment: H. position may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	---	

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode in TV mode.
3. Press [8] button on the service remote control unit and select "H-P" mode.
4. Input monoscope pattern.
5. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the left and right side of the monoscope pattern are equal to each other.

10. V. Position Adjustment

Purpose: To obtain correct vertical position of screen image.

Symptom of Misadjustment: If V. position is incorrect, vertical position of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	---	

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode in TV mode.
3. Press [9] button on the service remote control unit and select "V-P" mode. (Display changes "V-S" and "V-P" cyclically when [9] button is pressed.)
4. Input monoscope pattern.
5. Press [CH. ▲ / ▼] buttons on the service remote control unit so that the top and bottom of the monoscope pattern are equal each other.

11. V. Size Adjustment

Purpose: To obtain correct vertical height of screen image.

Symptom of Misadjustment: If V. Size is incorrect, vertical height of image on the screen may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	[CH. ▲/▼] buttons	---	Monoscope
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	90%±5%	

1. Operate the unit for at least 20 minutes.
2. Enter the Service mode in TV mode.
3. Press [9] button on the service remote control unit and select V-S mode. (Display changes "V-S" and "V-P" cyclically when [9] button is pressed.)
4. Input monoscope pattern.
5. Press [CH. ▲ / ▼] buttons on the remote control unit so that the monoscope pattern is 90±5% of display size and the circle is round.

12. Head Switching Position Adjustment

Purpose: Determine the Head Switching Position during Playback.

Symptom of Misadjustment: May cause Head Switching Noise or Vertical Jitter in the picture.

Note: Unit reads Head Switching Position automatically and displays it on the screen (Upper Left Corner).

1. Playback test tape (VFMS0001H6).
2. Enter the Service mode in TV mode.
3. Press [5] button on the service remote control unit.
4. The Head Switching position will display on the screen; if adjustment is necessary follow step 4. 6.5H(412.7μs) is preferable.
5. Press [CH. ▲ / ▼] buttons on the service remote control unit if necessary. The value will be changed in 0.5H steps up or down. Adjustable range is up to 9.5H. If the value is beyond adjustable range, the display will change as:
   Lower out of range: 0.0H
   Upper out of range: -.-H

The following 2 adjustments normally are not attempted in the field. They should be done only when replacing the CRT then adjust as a preparation.

13. Purity Adjustment

Purpose: To obtain pure color.

Symptom of Misadjustment: If Color Purity Adjustment is incorrect, large areas of color may not be properly displayed.

Test Point	Adj. Point	Mode	Input
---	Deflection Yoke Purity Magnet	---	*Red Color
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	
Figure			

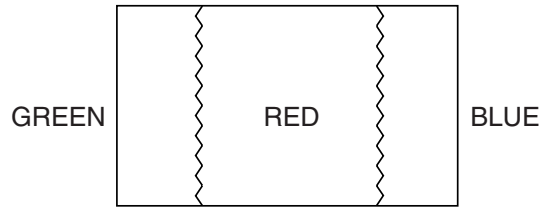


Fig. 5

* This becomes RED COLOR if the [7] button is pressed while in service mode.

1. Set the unit facing east.
2. Operate the unit for over 30 minutes before adjusting.
3. Fully degauss the unit using an external degaussing coil.
4. Set the unit to the AUX mode which is located before CH2 then input a red raster from video in.
5. Loosen the screw on the Deflection Yoke Clamper and pull the Deflection Yoke back away from the screen. (See Fig. 6.)
6. Loosen the Ring Lock and adjust the Purity Magnets so that a red field is obtained at the center of the screen. Tighten Ring Lock. (See Fig. 5, 6.)
7. Slowly push the Deflection Yoke toward the bell of the CRT and set it where a uniform red field is obtained.
8. Tighten the clamp screw on the Deflection Yoke.

14. Convergence Adjustment

Purpose: To obtain proper convergence of red, green and blue beams.

Symptom of Misadjustment: If Convergence Adjustment is incorrect, the edge of white letters may have color edges.

Test Point	Adj. Point	Mode	Input
---	C.P. Magnet (RB) C.P. Magnet (RB-G) Deflection Yoke	---	Dot Pattern or Crosshatch
Tape	**M. EQ.**	**Spec.**	
---	Pattern Generator	See below	
Figure			

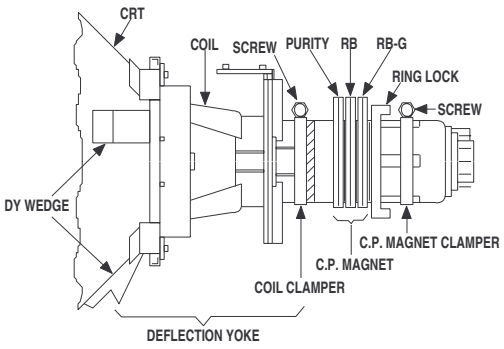


Fig. 6

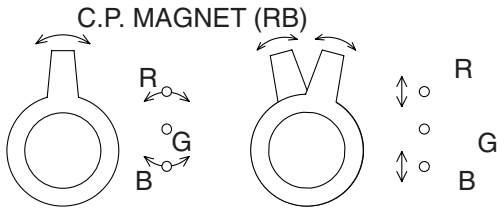


Fig. 7

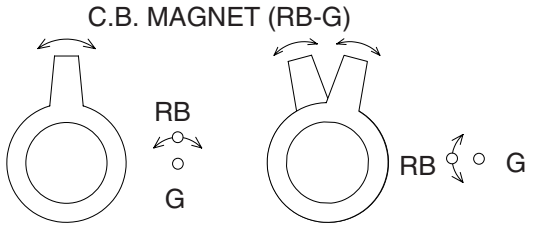


Fig. 8

1. Set the unit to the AUX mode which is located before CH2 then input a dot or crosshatch pattern.
2. Loosen the Ring Lock and align red with blue dots or crosshatch at the center of the screen by rotating (RB) C.P. Magnets. (See Fig. 7.)
3. Align red / blue with green dots at the center of the screen by rotating (RB-G) C.P. Magnet. (See Fig. 8.)

4. Fix the C.P. Magnets by tightening the Ring Lock.
5. Remove the DY Wedges and slightly tilt the Deflection Yoke horizontally and vertically to obtain the best overall convergence.
6. Fix the Deflection Yoke by carefully inserting the DY Wedges between CRT and Deflection Yoke.

HOW TO INITIALIZE THE TV/DVD/VCR

To put the program back at the factory-default, initialize the TV/DVD/VCR as the following procedure.

< DVD Section >

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode.
2. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. a appears on the screen.

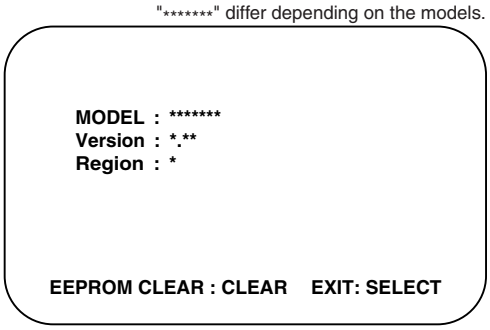


Fig. a

3. Press [CLEAR] button on the remote control unit.
   Fig. b appears on the screen.

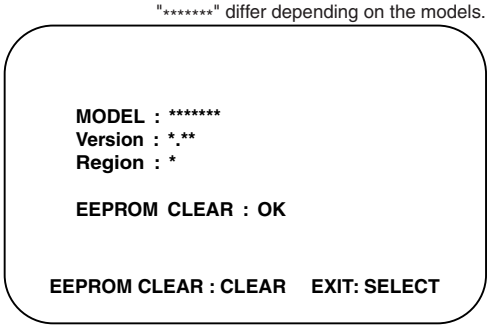


Fig. b

   When “OK” appears on the screen, the factory default will be set.
4. To exit this mode, press [CH. ▲/▼] or [SELECT] button to go to TV mode, or press [STANDBY-ON] button to turn the power off.

< TV/VCR Section >

1. Use the service remote control unit.
2. Turn the power on and press [SELECT] button to select TV mode. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter Service mode. (Refer to “How to enter Service mode” on page 1-7-1.)
4. Press [VOL ▽] button on the service remote control unit twice, and confirm that OSD indication is “7F = FF.” If needed, set it to become “7F = FF” by pressing [CH. ▲/▼] buttons on the service remote control unit.
5. Confirm that OSD indication on the four corners on TV screen changes from on and off light indication to red by pressing [DISPLAY] button. (It is necessary for one or two seconds.)
6. Press [STANDBY-ON] button to release from Service mode.

< DTV Section >

1. Use the service remote control unit.
2. Turn the power on and press [SELECT] button to select DTV mode. (Use main power on the TV unit.)
3. Press [DISC MENU] button on the service remote control unit to enter Service mode. (Refer to “How to enter Service mode” on page 1-7-1.)
4. Confirm that OSD indication on the four corners on TV screen changes to red by pressing [DISPLAY] button.
5. Press [STANDBY-ON] button to release from Service mode.
6. Press [SELECT] button to change to AUX mode.

< Both TV/VCR and DTV Section >

1. Turn the power on and press [SELECT] button to select DTV mode.
2. Press [DISC MENU] button to enter Service mode.
3. Press [DISPLAY] button to initialize in DTV mode.
4. Press [STANDBY-ON] button to release from Service mode.
5. Press [SELECT] button to change to AUX mode.
6. Press [DISC MENU] button to enter Service mode.
7. Press [DISPLAY] button to initialize in TV mode.
8. Press [STANDBY-ON] button (or [RETURN] and [5] buttons) to release from Service mode.
   Initializing is complete.

FIRMWARE RENEWAL MODE

1. Turn the power on and press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode. Then remove the disc on the tray. (It is possible to move to F/W version up mode only when the TV/DVD/VCR is in DVD mode with the tray open.)
2. To put the TV/DVD/VCR into F/W version up mode, press [9], [8], [7], [6], and [MODE] buttons on the remote control unit in that order.
   Fig. a appears on the screen.

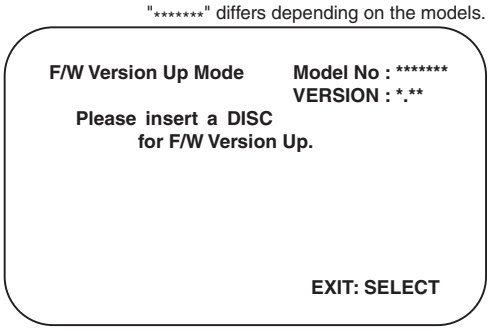


Fig. a Version Up Mode Screen

   The TV/DVD/VCR can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up.
4. The TV/DVD/VCR enters the F/W version up mode automatically. Fig. b appears on the screen. If you enter the F/W for different models, “Disc Error” will appear on the screen, then the tray will open automatically.

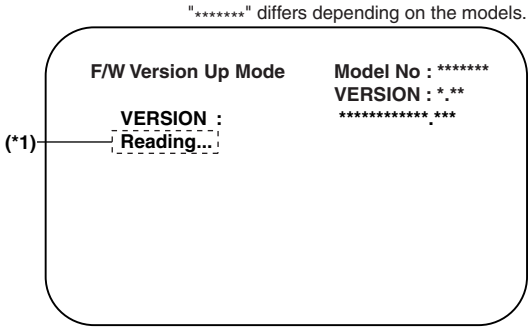


Fig. b Programming Mode Screen

   The appearance shown in (*1) of Fig. b is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. c appears on the screen and the checksum will be shown in (*2) of Fig. c.

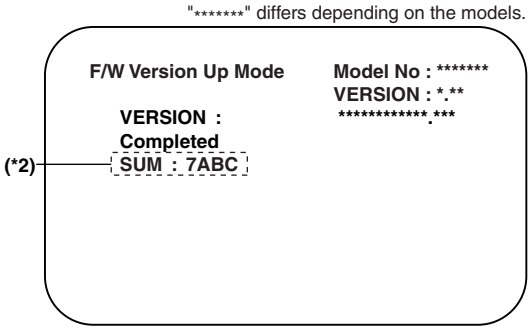


Fig. c Completed Program Mode Screen

   At this time, no button is available.

6. Remove the disc on the tray.
7. Press [SELECT] button on the remote control unit to go to TV mode, or press [STANDBY-ON] button on the unit to turn the power off.
8. Press [SELECT] button on the remote control unit to put the TV/DVD/VCR into DVD mode again.
9. Press [1], [2], [3], [4], and [DISPLAY] buttons on the remote control unit in that order.
   Fig. d appears on the screen.

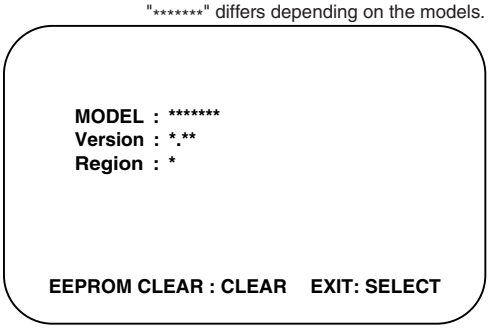


Fig. d

10. Press [CLEAR] button on the remote control unit.
    Fig. e appears on the screen.

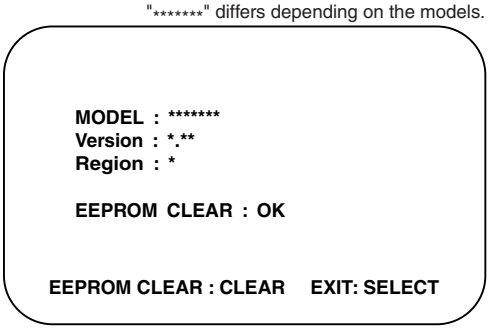


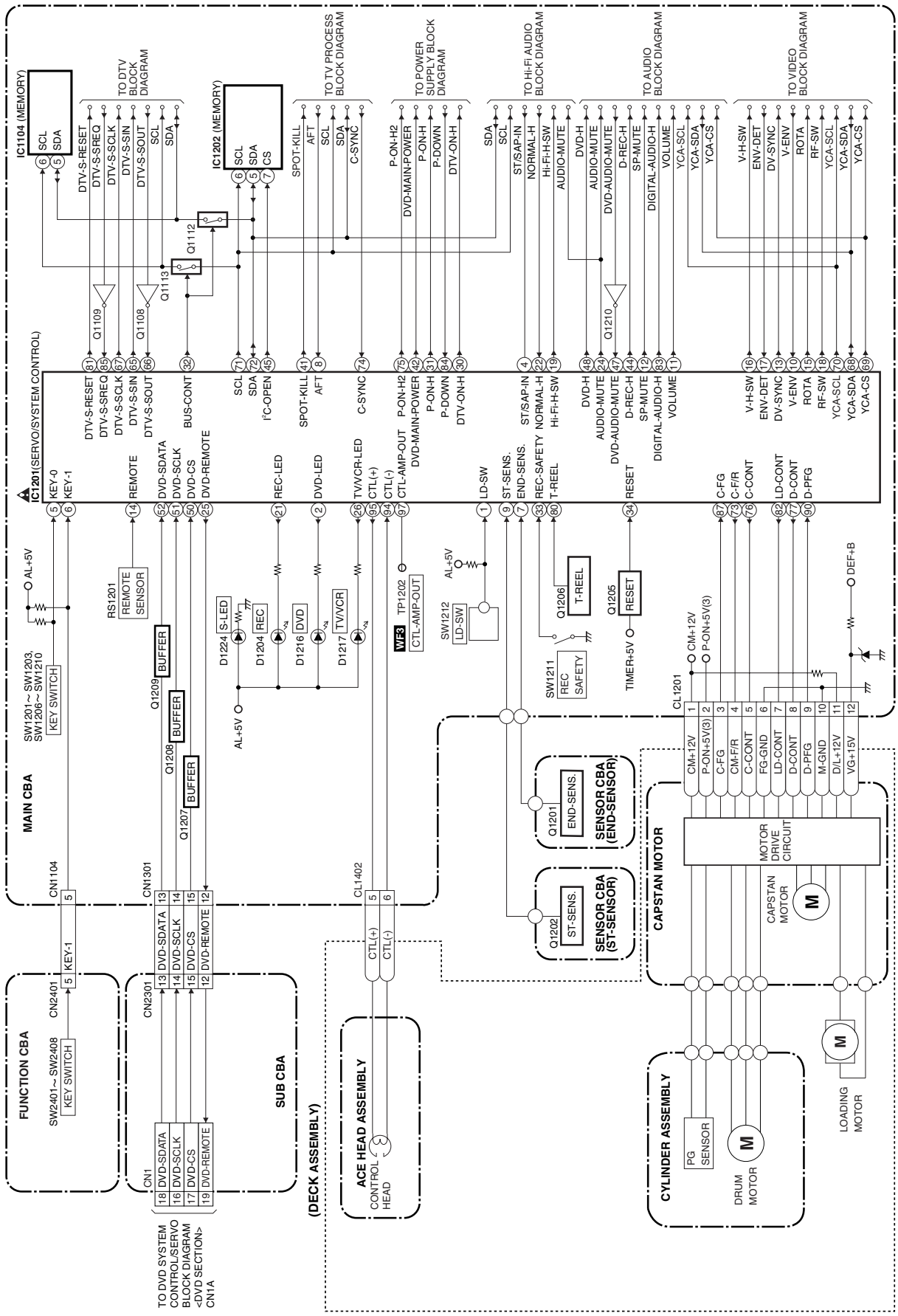
Fig. e

    When “OK” appears on the screen, the factory default will be set. Then the firmware renewal mode is complete.

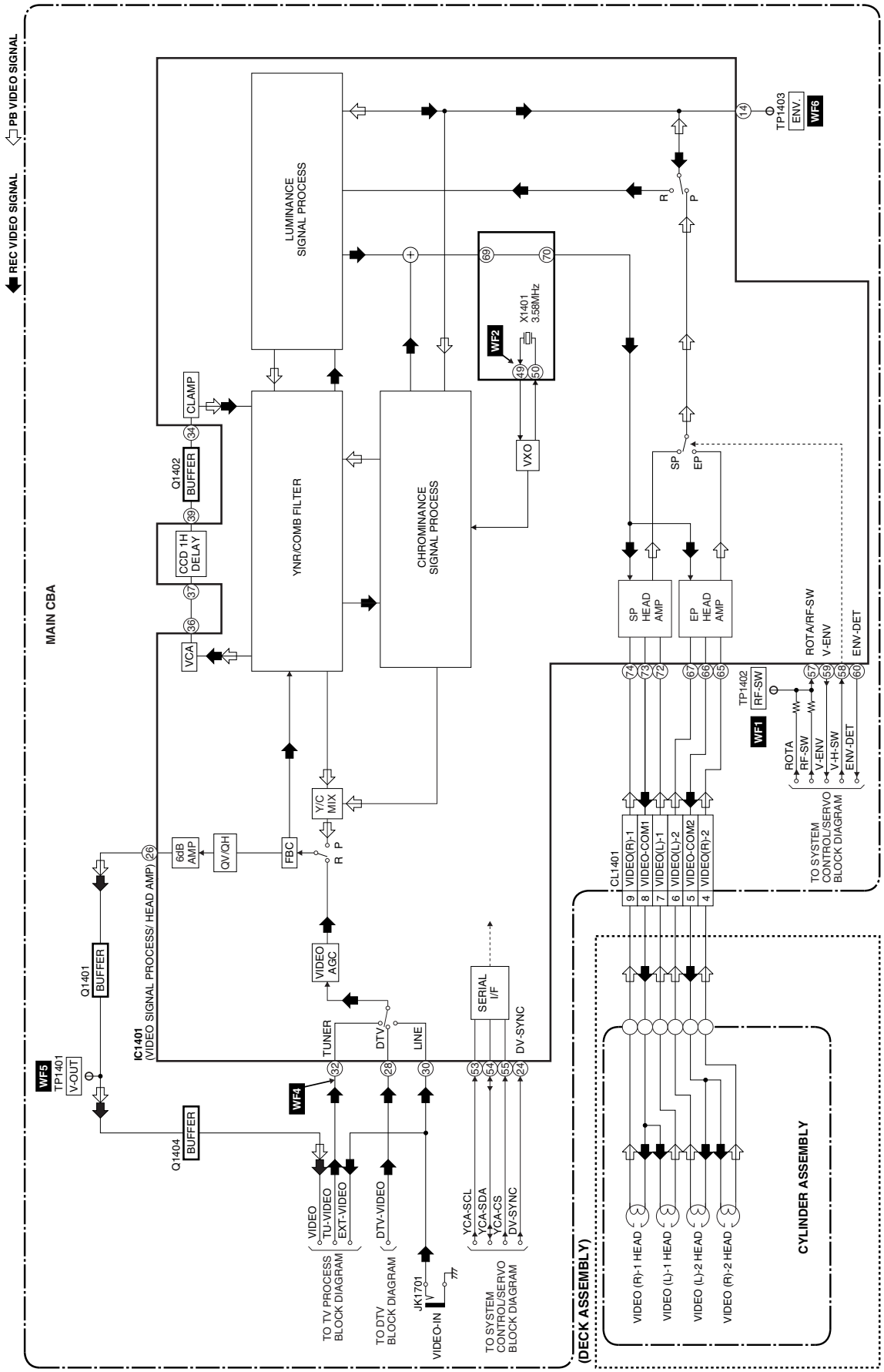
11. To exit this mode, press [CH. ▲ / ▼] or [SELECT] button to go to TV mode, or press [STANDBY-ON] button to turn the power off.

BLOCK DIAGRAMS < TV/VCR Section >

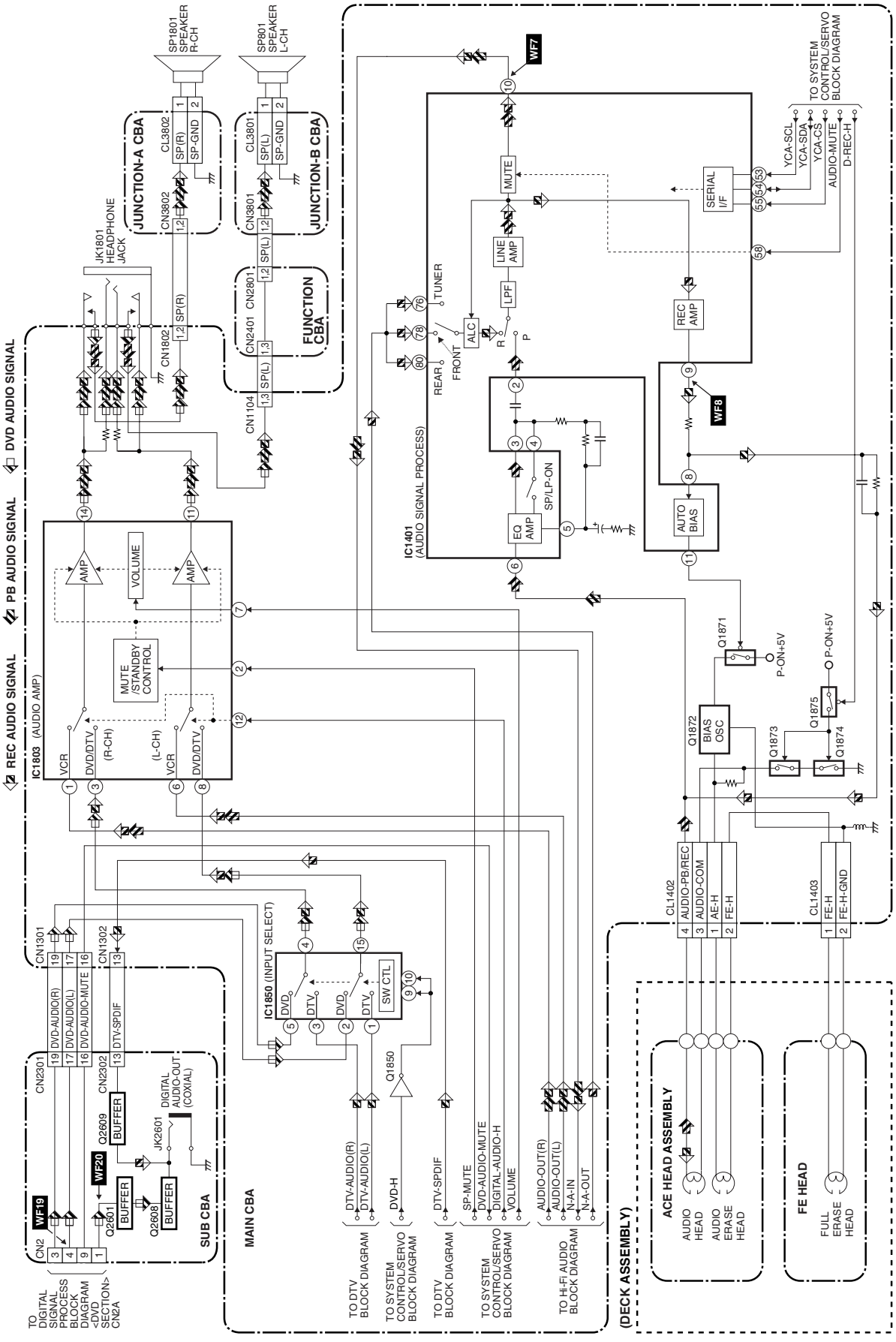
System Control / Servo Block Diagram



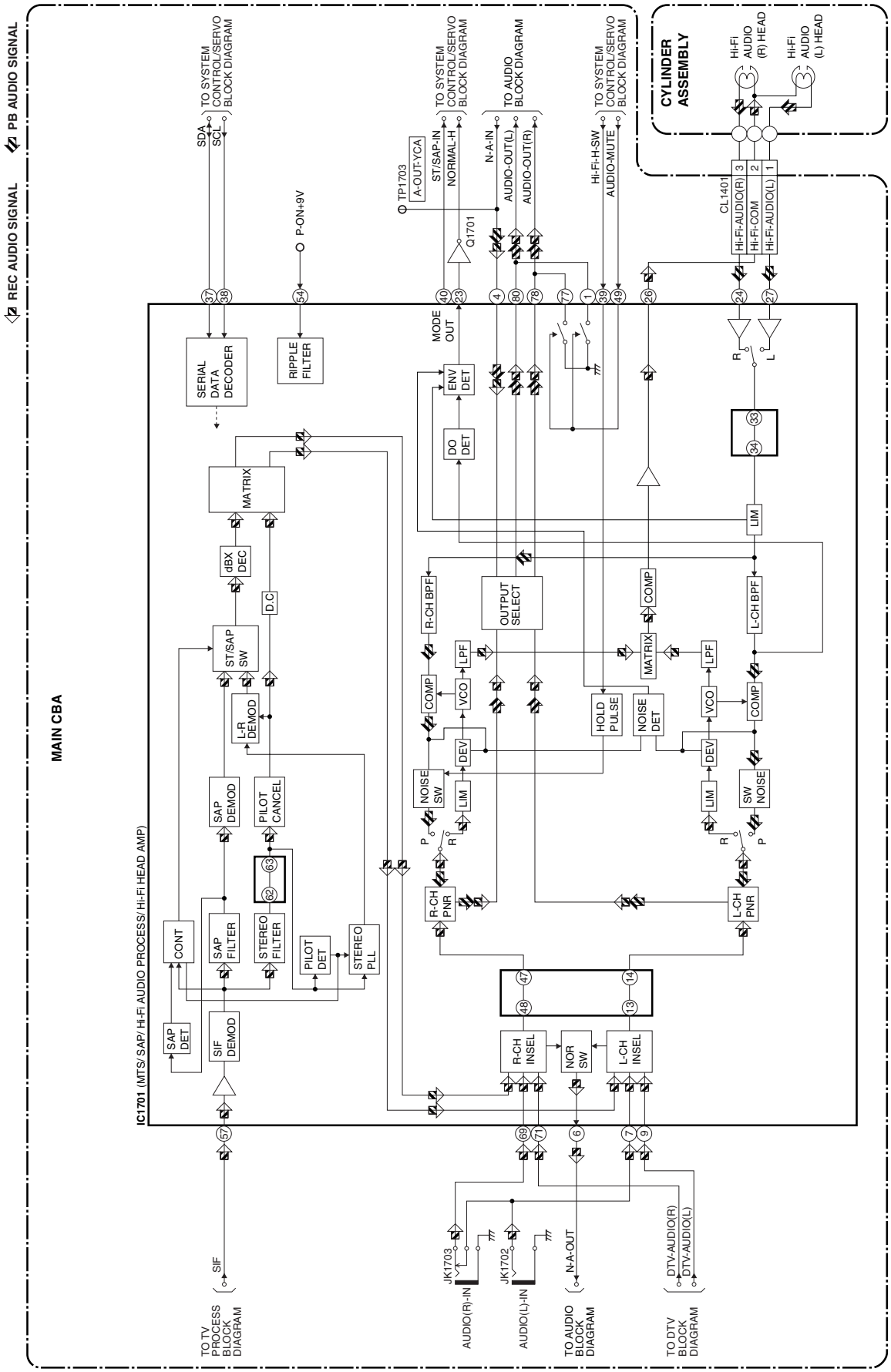
Video Block Diagram



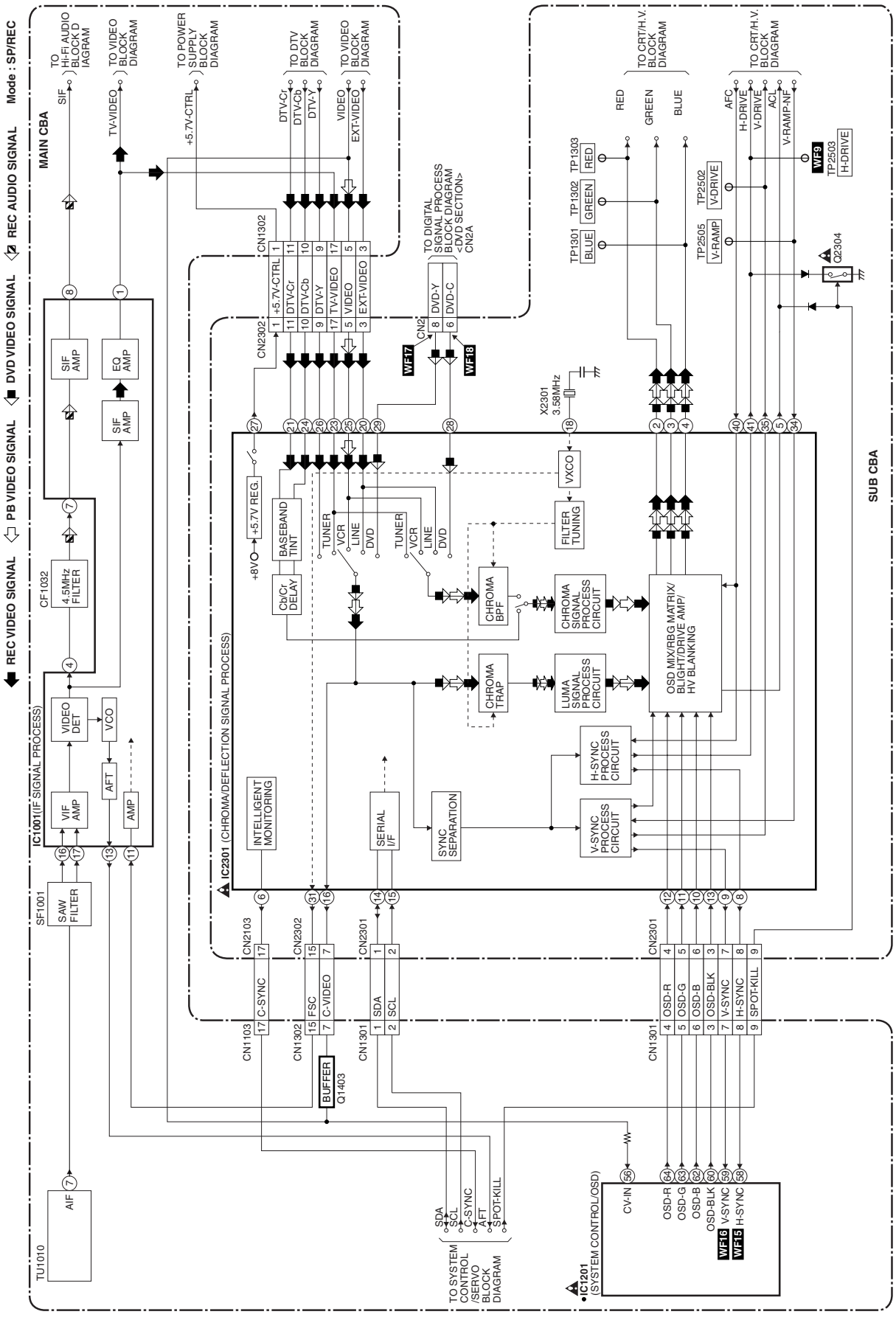
Audio Block Diagram



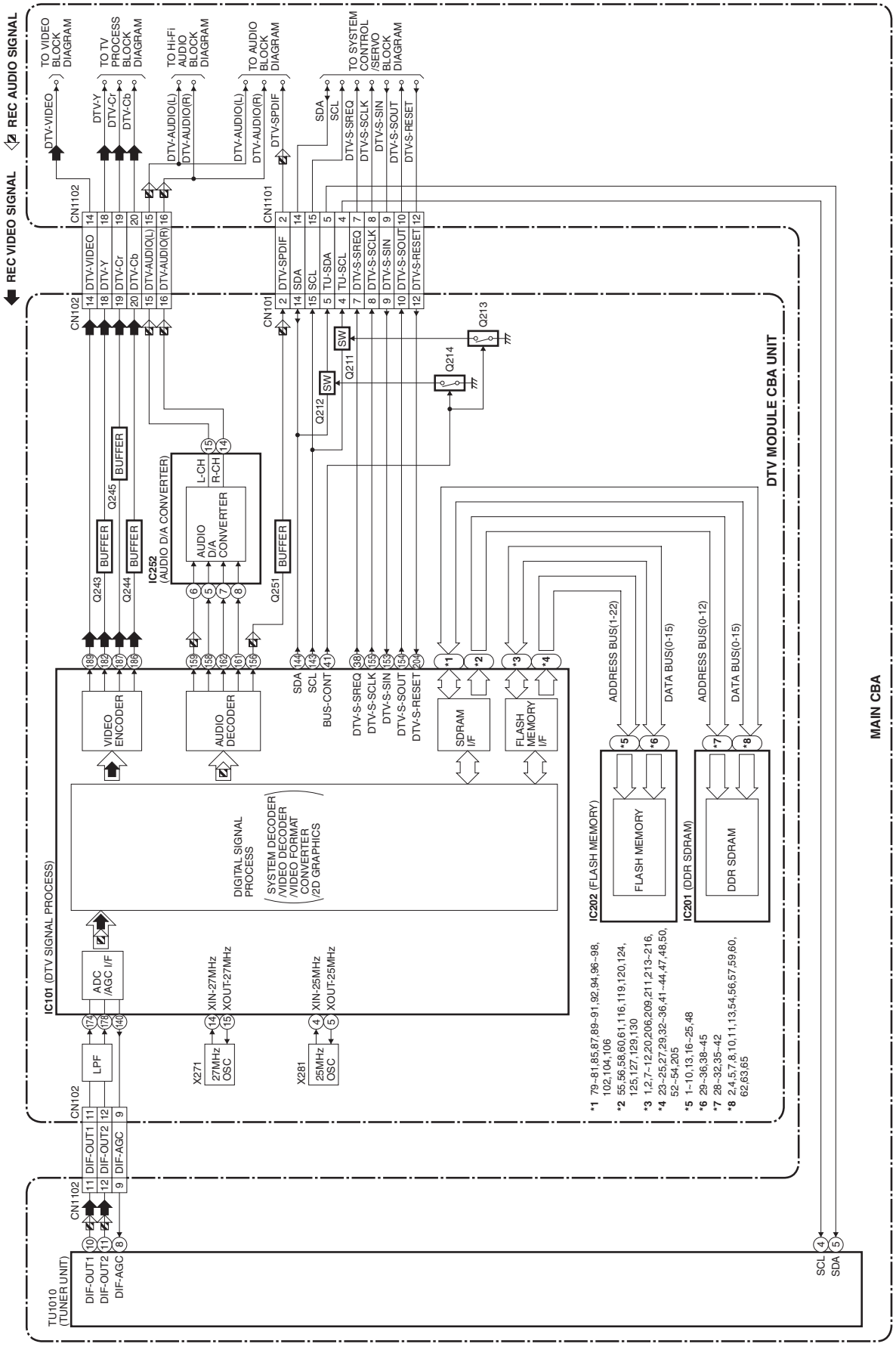
Hi-Fi Audio Block Diagram



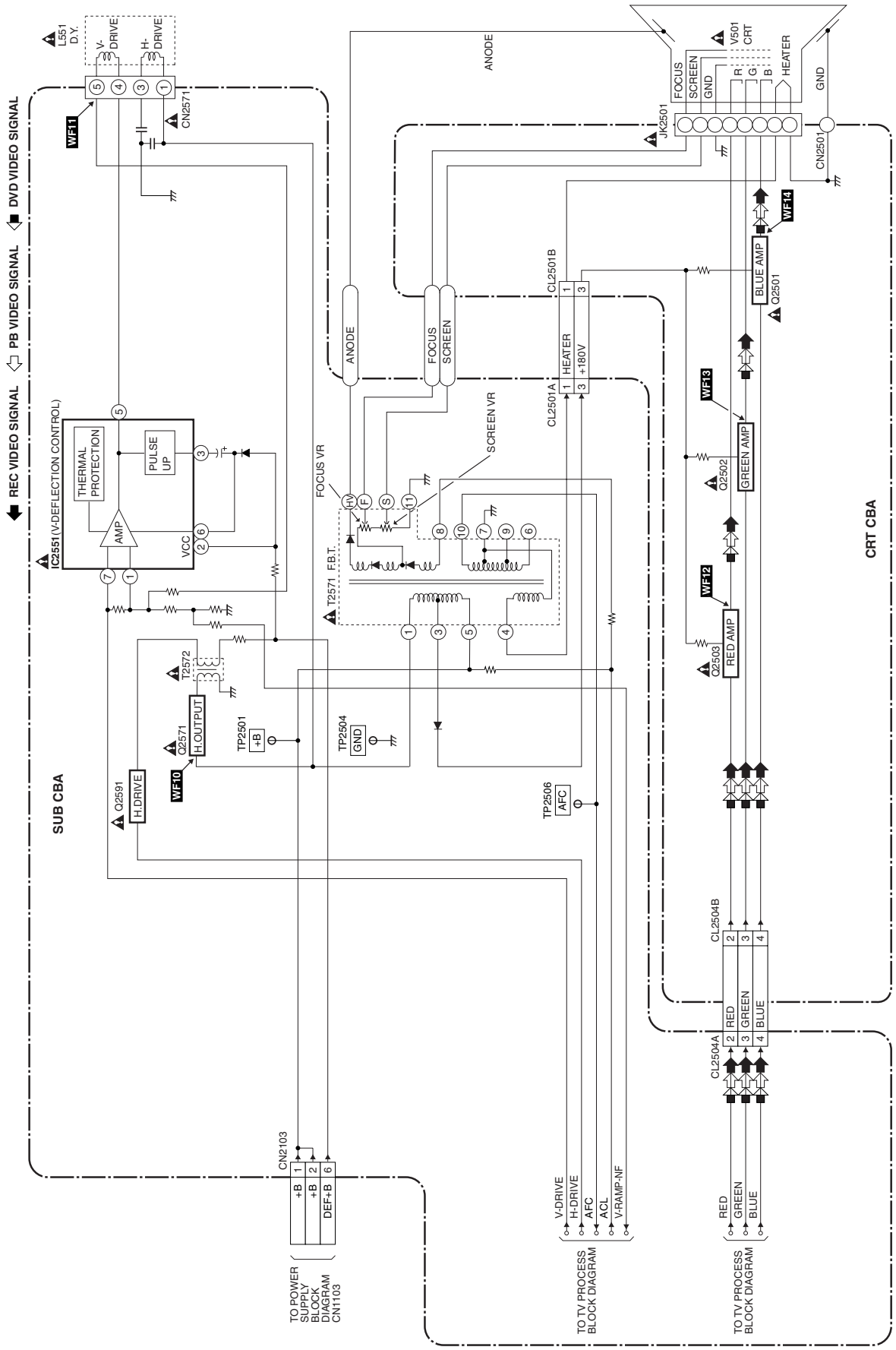
TV Process Block Diagram



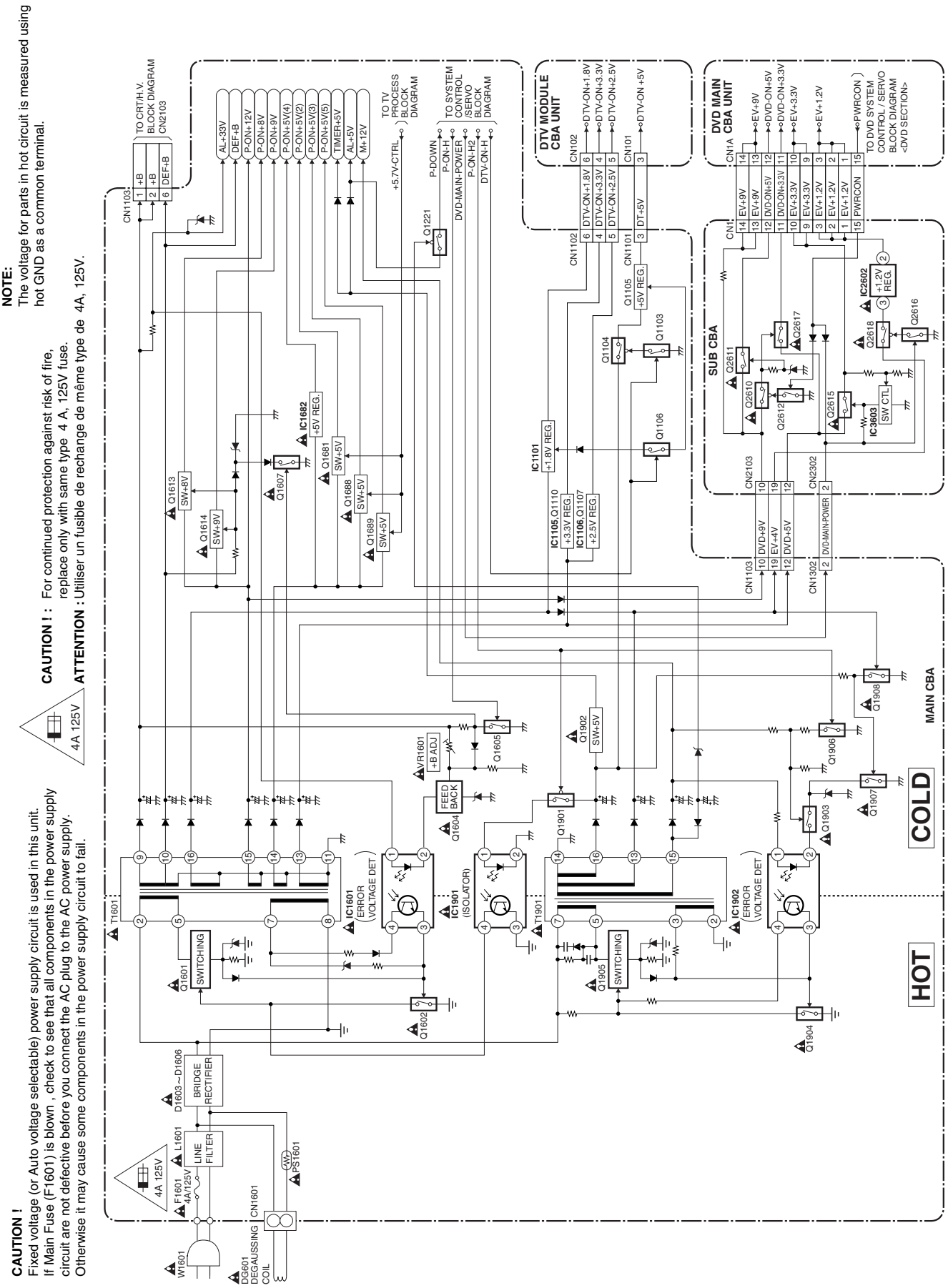
DTV Block Diagram



CRT/H.V. Block Diagram

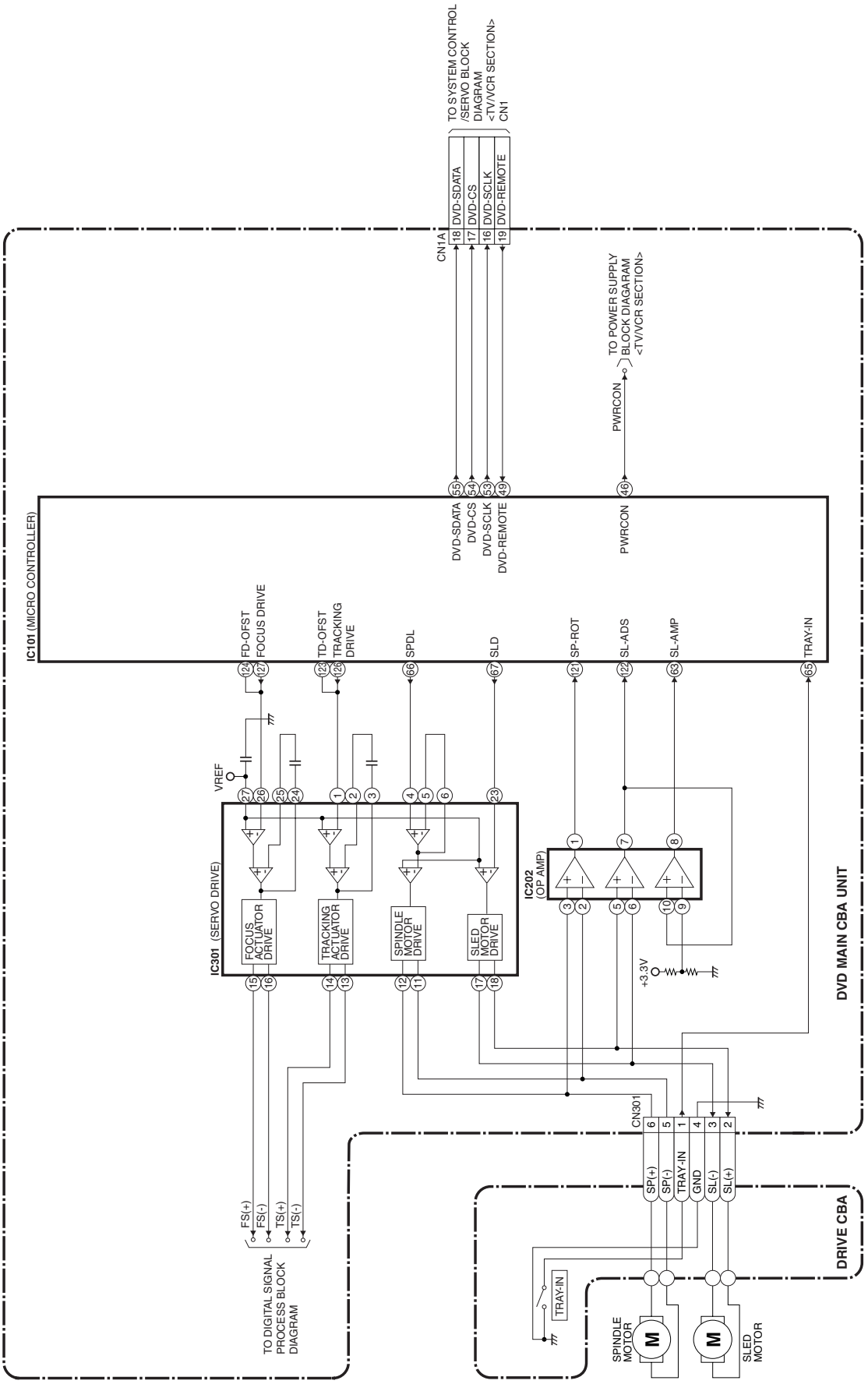


Power Supply Block Diagram

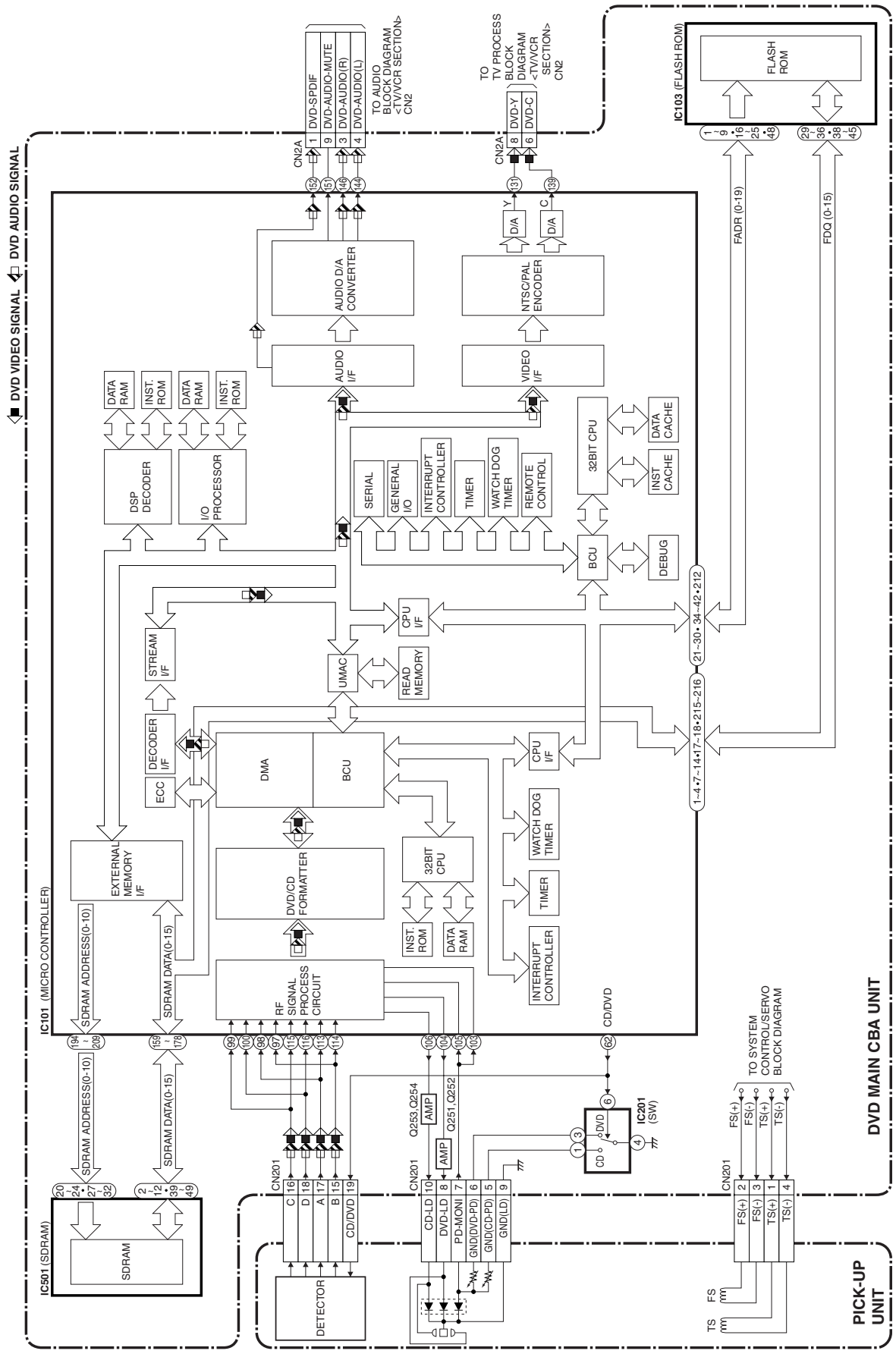


BLOCK DIAGRAMS < DVD Section >

DVD System Control / Servo Block Diagram



Digital Signal Process Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark "⚠" in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K = 10^3$, $M = 10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P = 10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE_A,_V FUSE.
ATTENTION: UTILISER UN FUSIBLE DE RECHANGE DE MÊME TYPE DE_A,_V.

2. CAUTION:

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

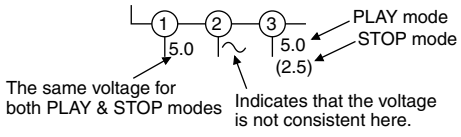
3. Note:

1. Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
2. To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

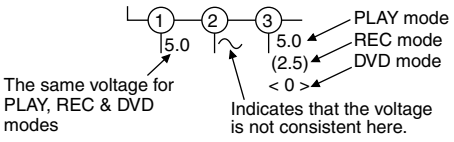
4. Mode: SP/REC

5. Voltage indications on the schematics are as shown below:

< DVD Section >

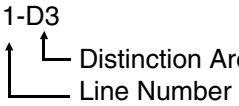


< TV/VCR Section >

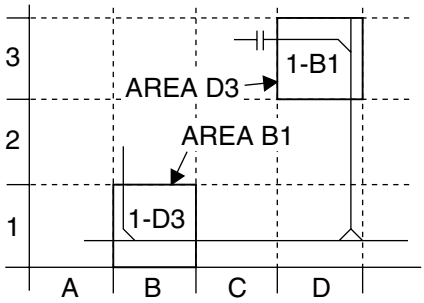


Unit: Volts

6. How to read converged lines



Examples:
1. "1-D3" means that line number "1" goes to the line number "1" of the area "D3".
2. "1-B1" means that line number "1" goes to the line number "1" of the area "B1".



7. Test Point Information

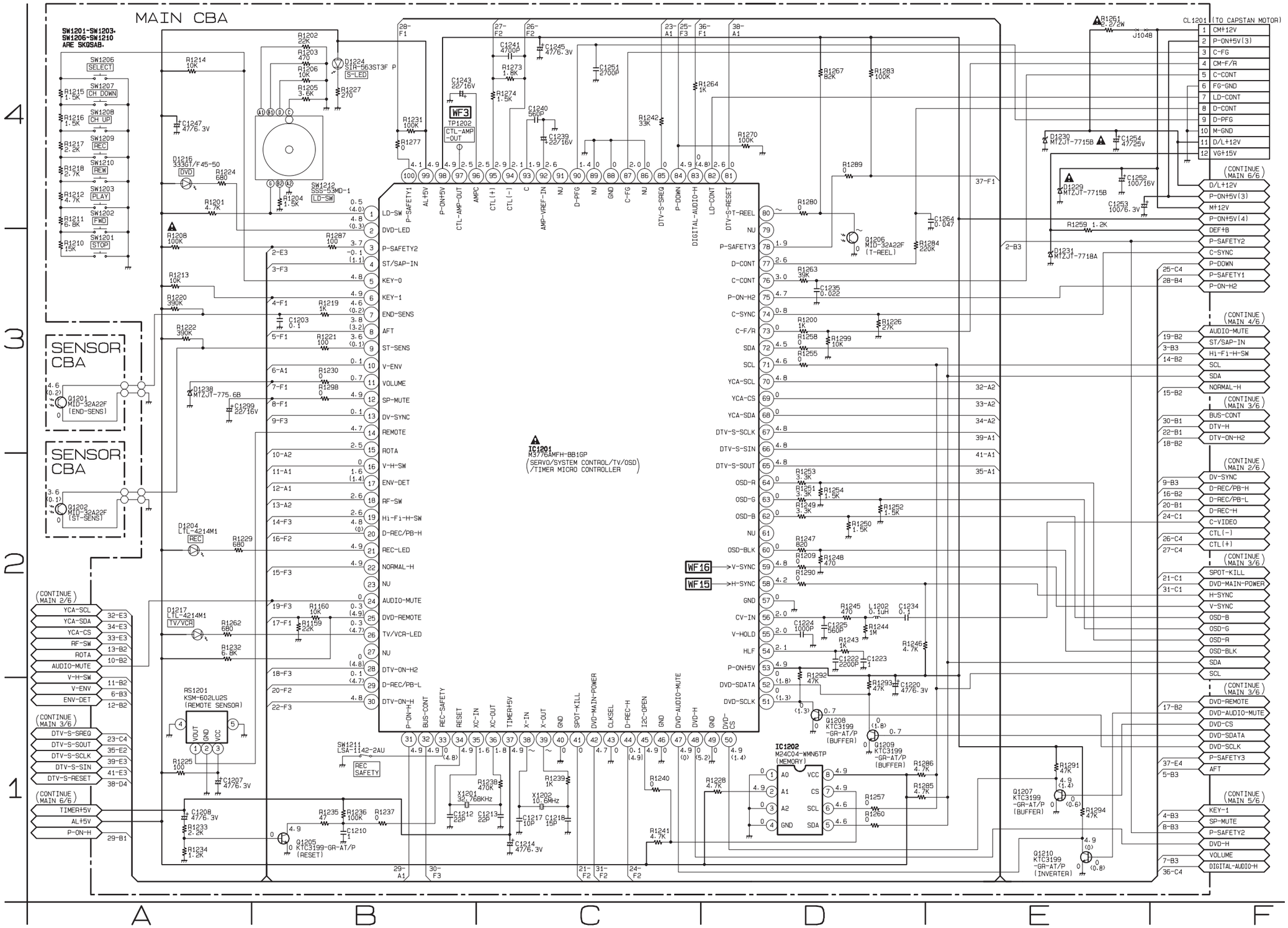
: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

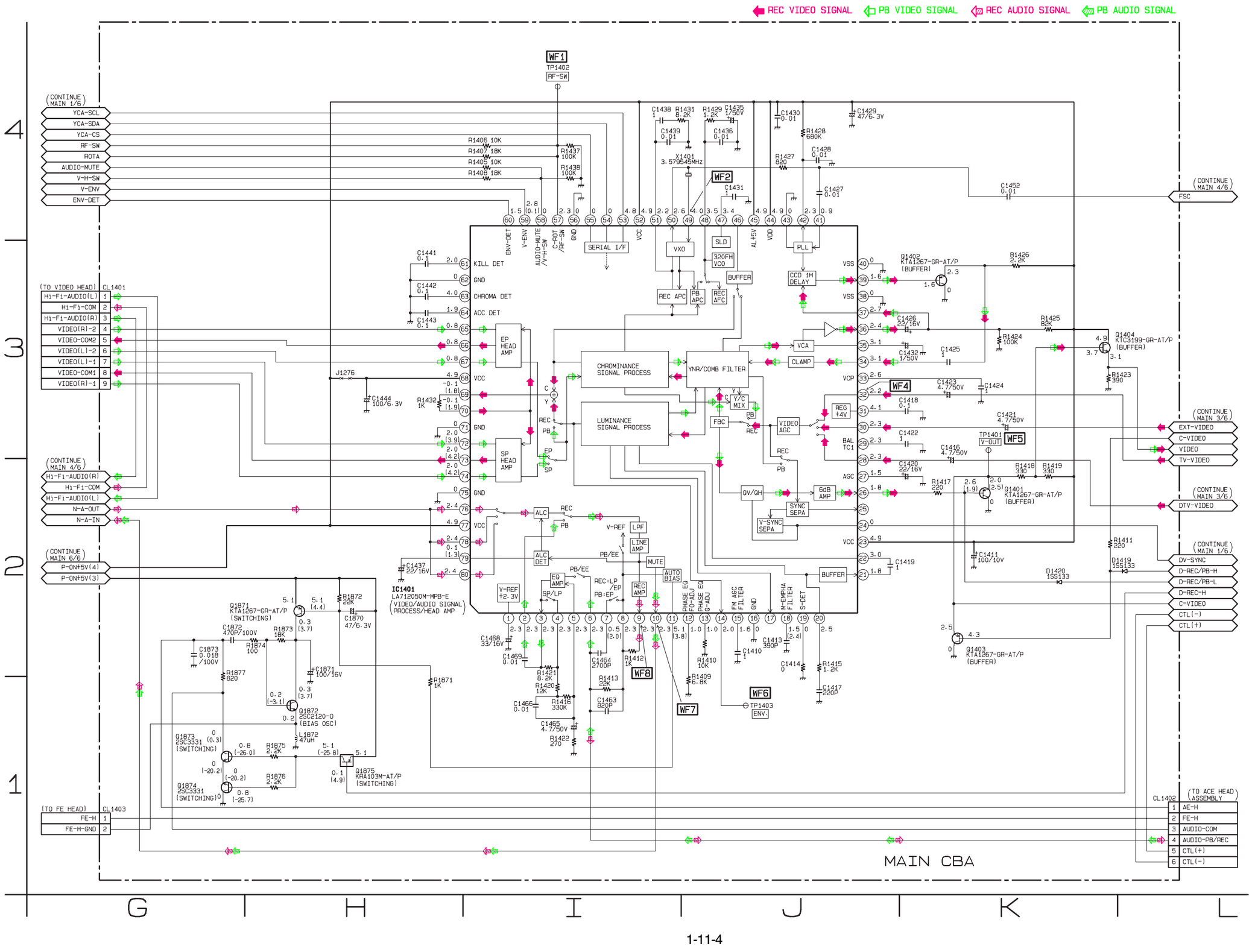
: Used to indicate a test point with a test pin.

Main 1/6 & Sensor Schematic Diagram < TV/VCR Section >

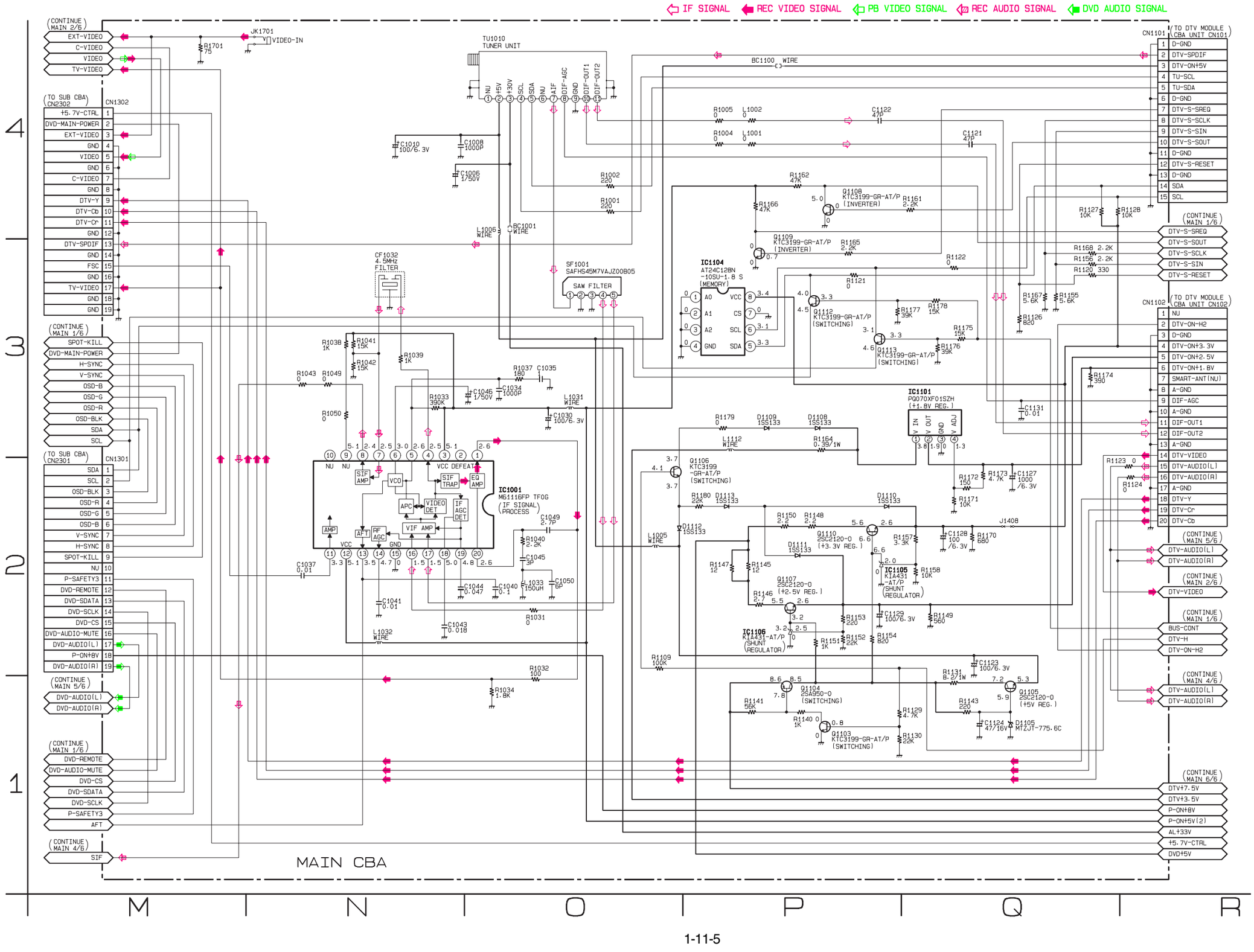


P7754SCM1

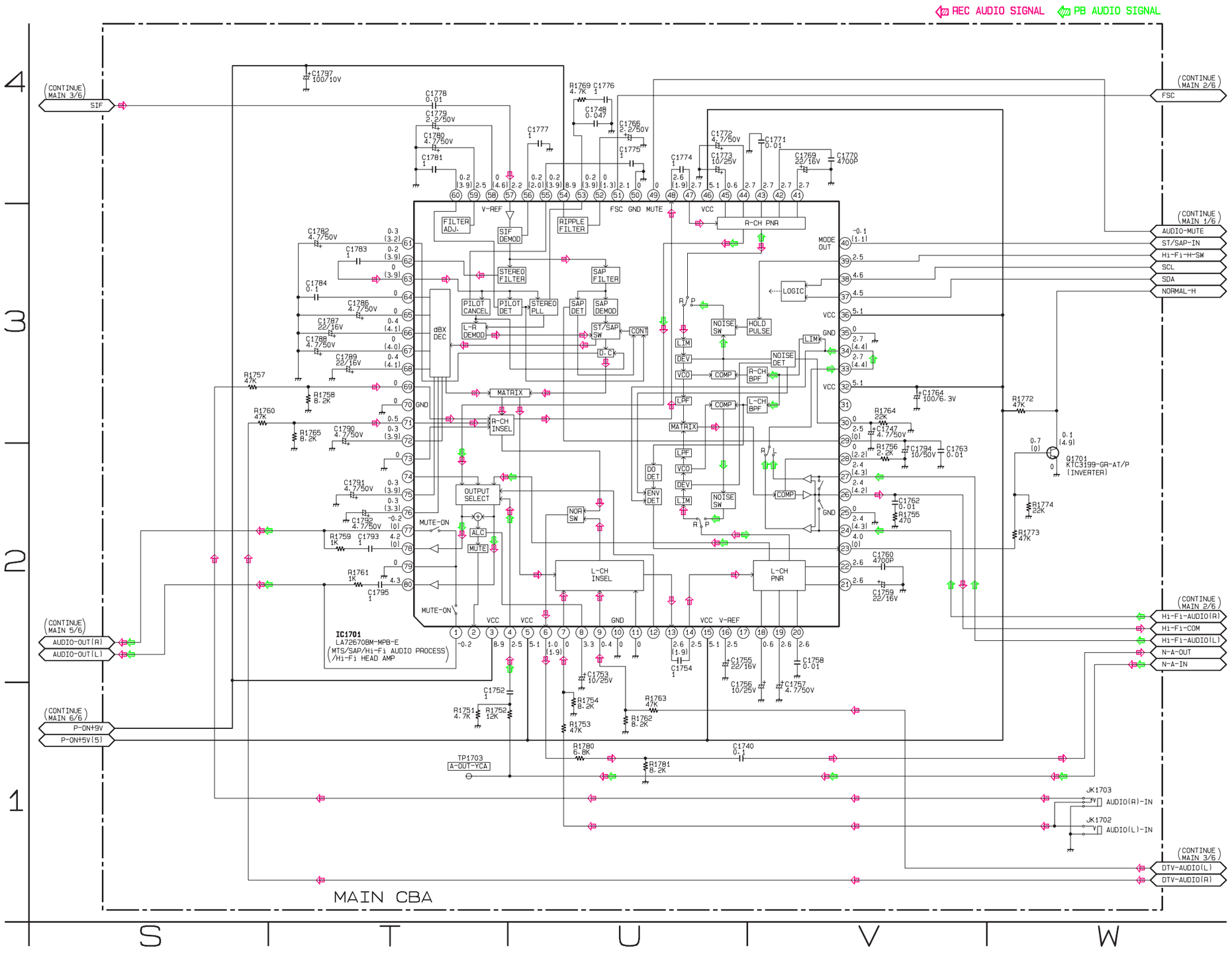
Main 2/6 Schematic Diagram < TV/VCR Section >



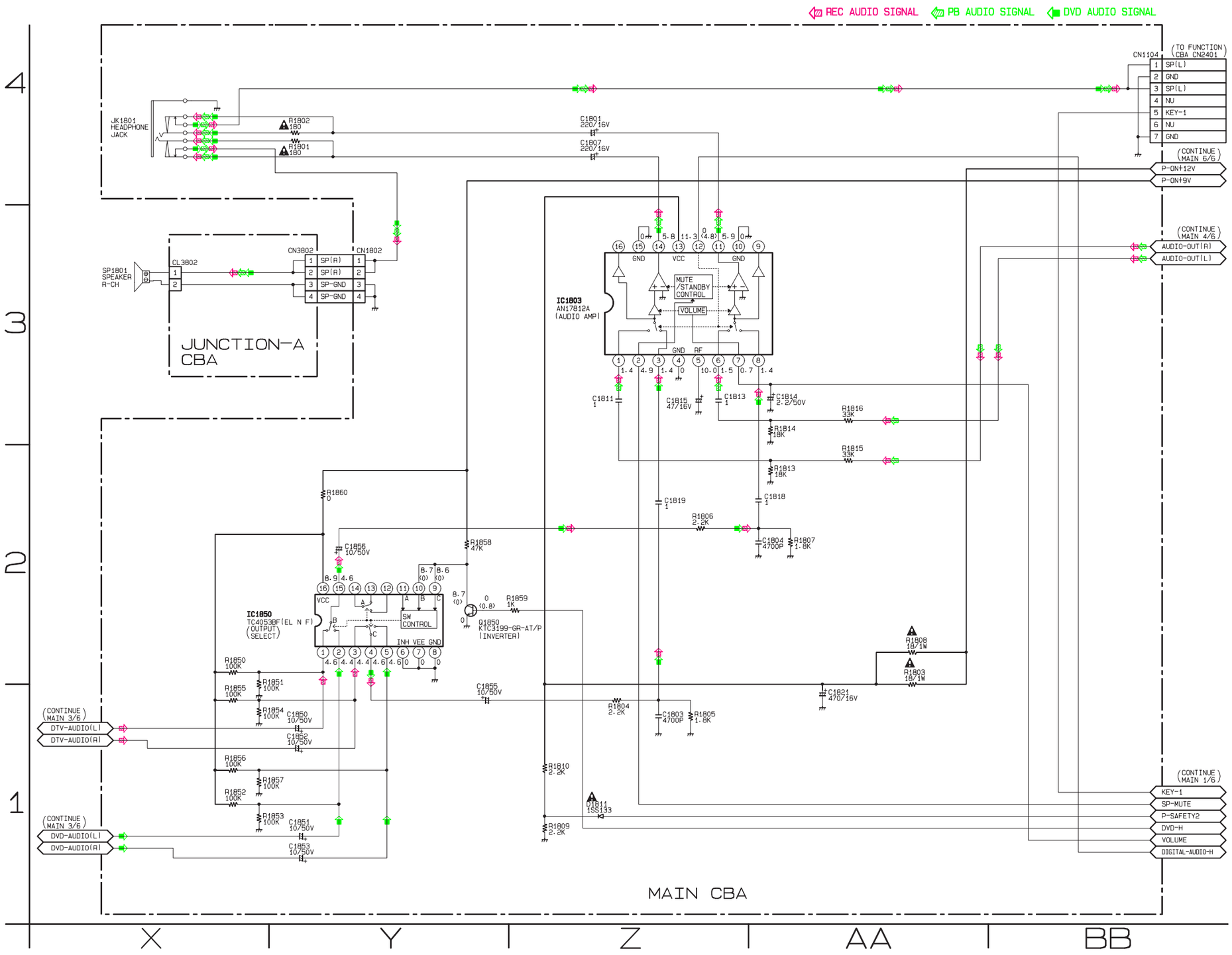
Main 3/6 Schematic Diagram < TV/VCR Section >



Main 4/6 Schematic Diagram < TV/VCR Section >



Main 5/6 & Junction-A Schematic Diagram < TV/VCR Section >



Main 6/6 Schematic Diagram < TV/VCR Section >

4A 125V

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply.
Otherwise it may cause some components in the power supply circuit to fail.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

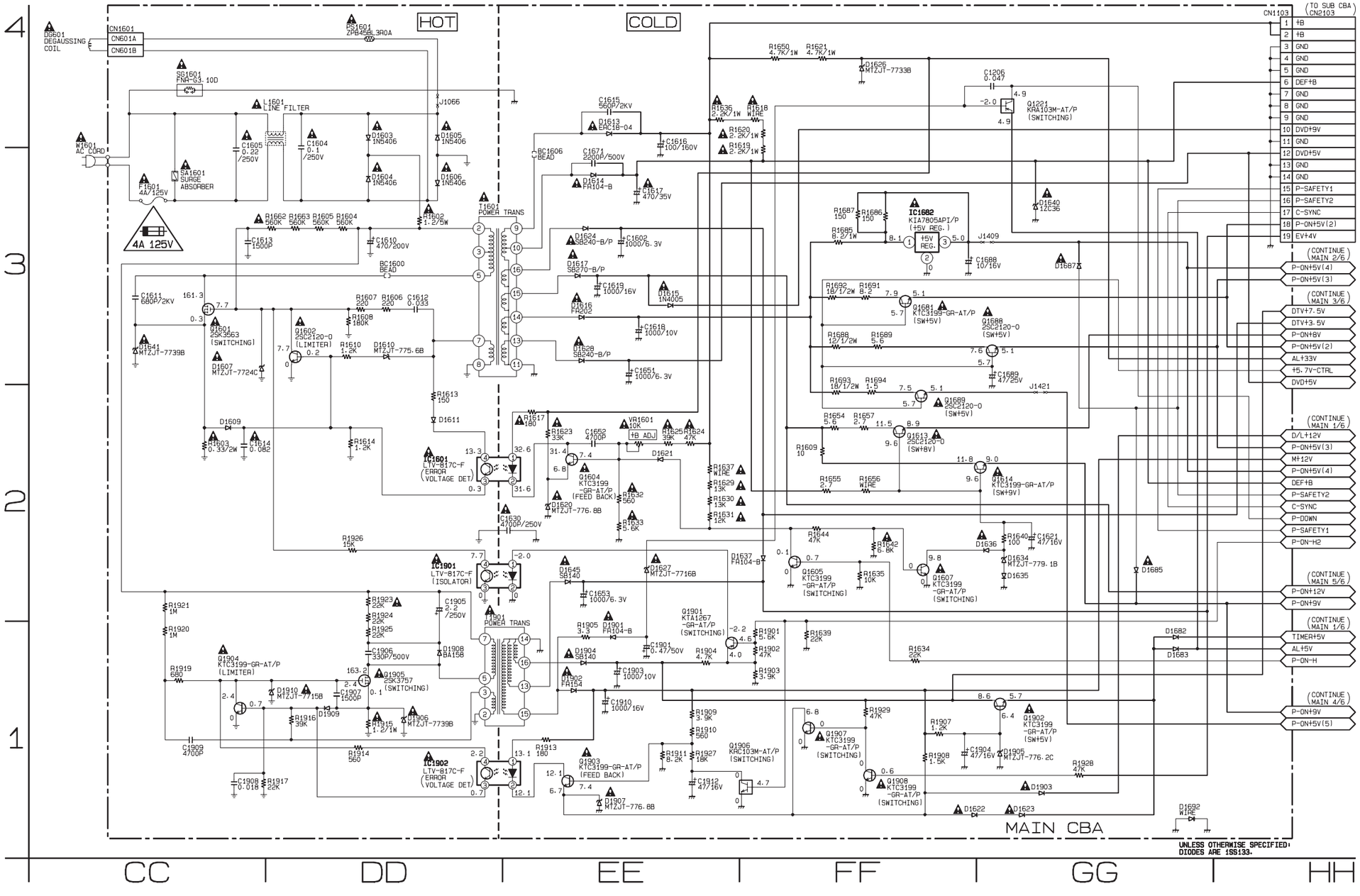
VOLTAGE CHART (Power off mode)

Ref. No.	1	2	3	4
IC1601	0	0.1	0	2.2
IC1901	1.1	0	0	0.1
IC1902	11.3	10.3	0.7	1.1

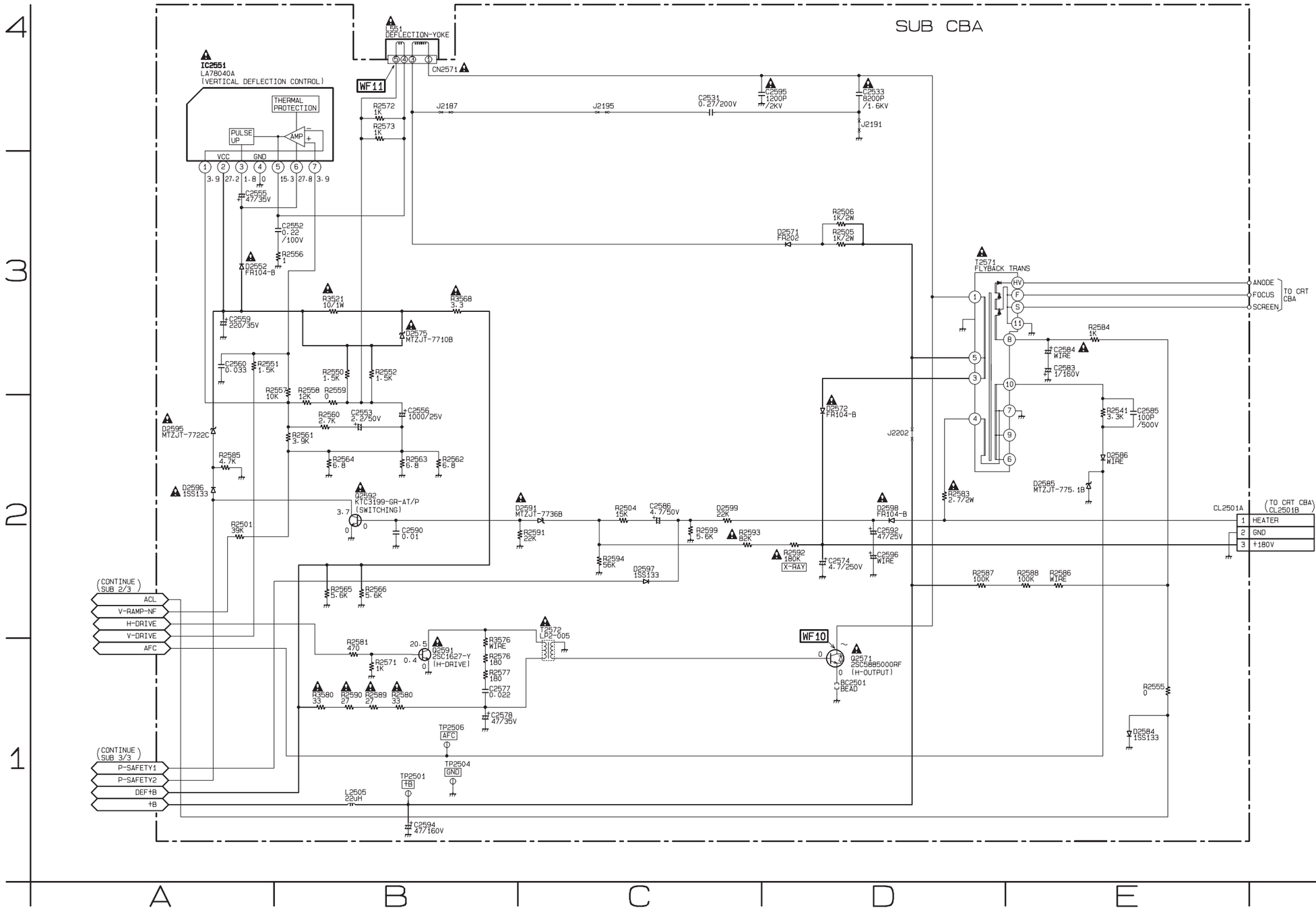
Ref. No.	1	2	3
IC1682	1.1	0	1.1

Ref. No.	S	D	G
Q1601	0.1	167.1	1.1
Q1905	0.1	167.6	1.1

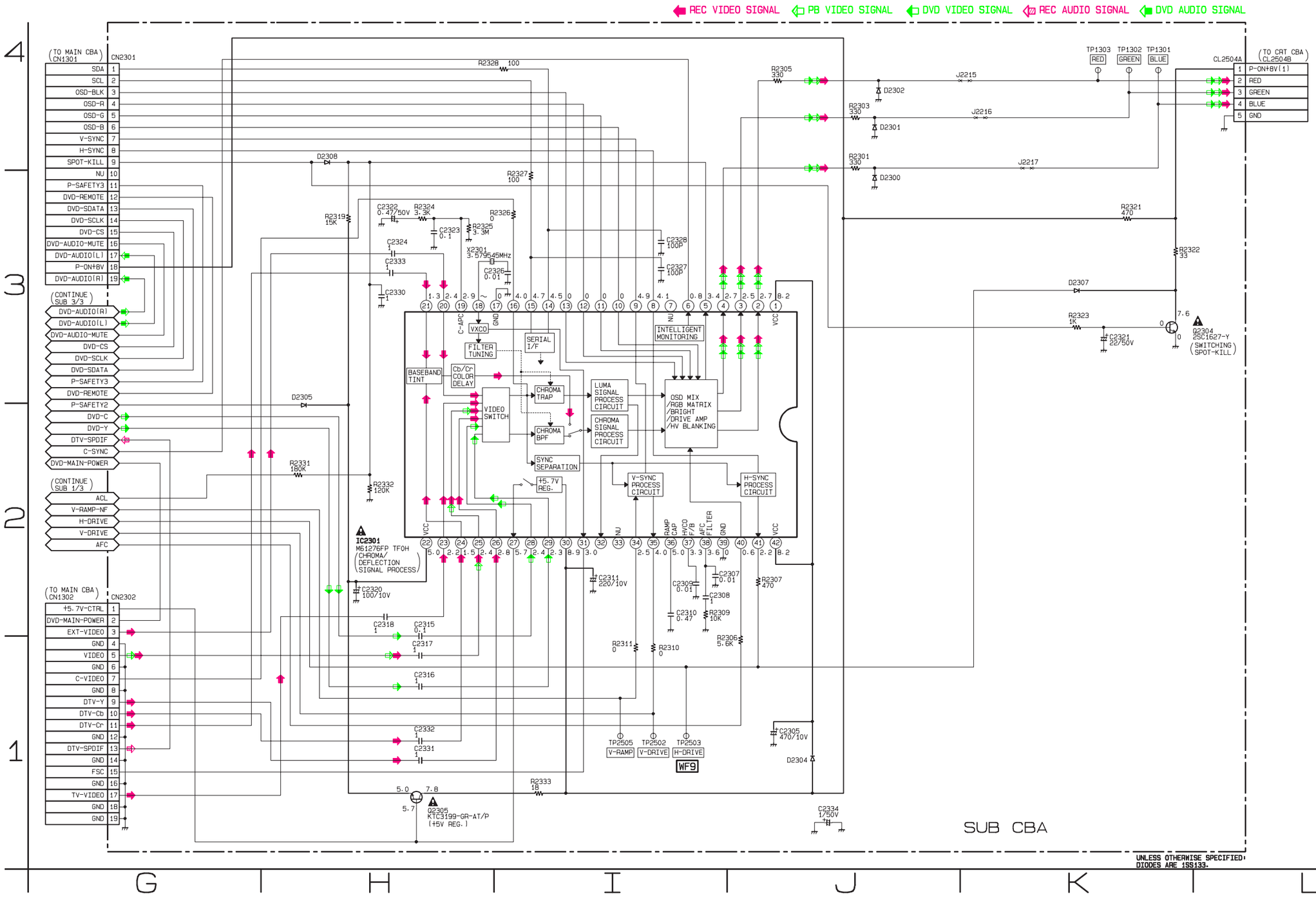
Ref. No.	E	C	B
Q1221	0	5.1	0
Q1602	0	1.1	0.1
Q1604	0	0.1	0
Q1605	0	0	0
Q1607	0	2.1	0
Q1613	0	0	0.1
Q1614	0	0	0
Q1681	0	1.1	0
Q1688	0	1.1	0
Q1689	0	1.1	0
Q1901	1.2	1.1	0.5
Q1902	5.6	7.0	6.6
Q1903	6.8	10.3	7.4
Q1904	0	1.1	0.7
Q1906	0	7.4	0.1
Q1907	0	6.8	0.1
Q1908	0	0.1	0.7



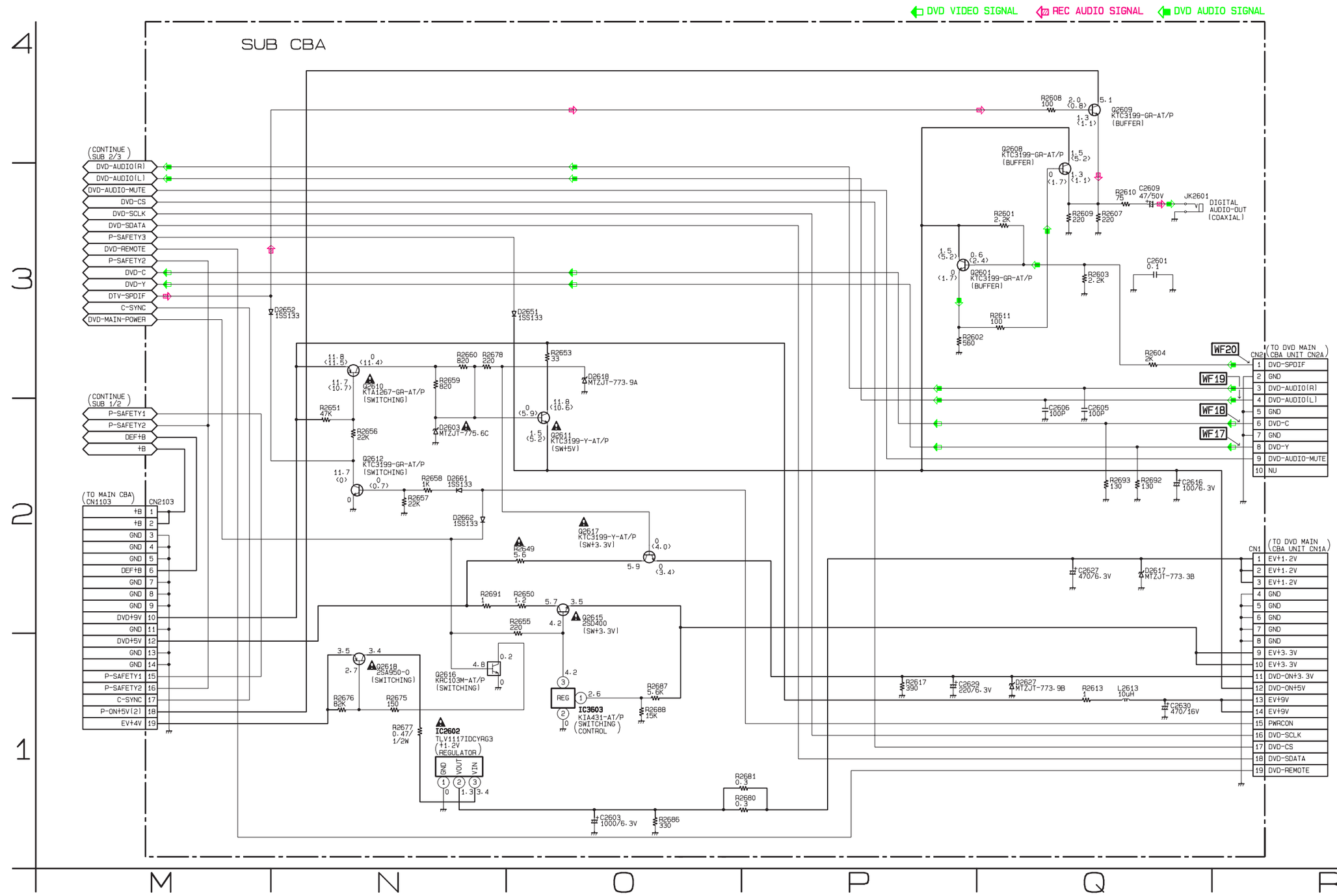
Sub 1/3 Schematic Diagram < TV/VCR Section >



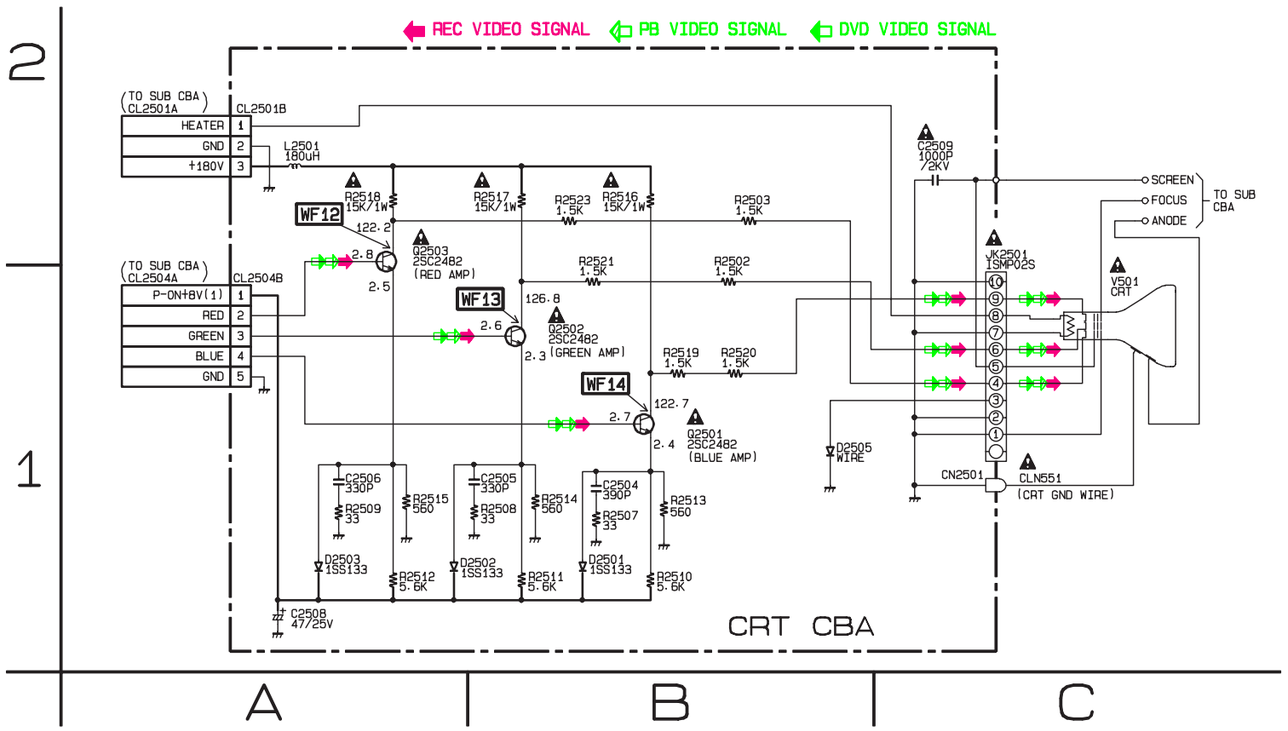
Sub 2/3 Schematic Diagram < TV/VCR Section >



Sub 3/3 Schematic Diagram < TV/VCR Section >

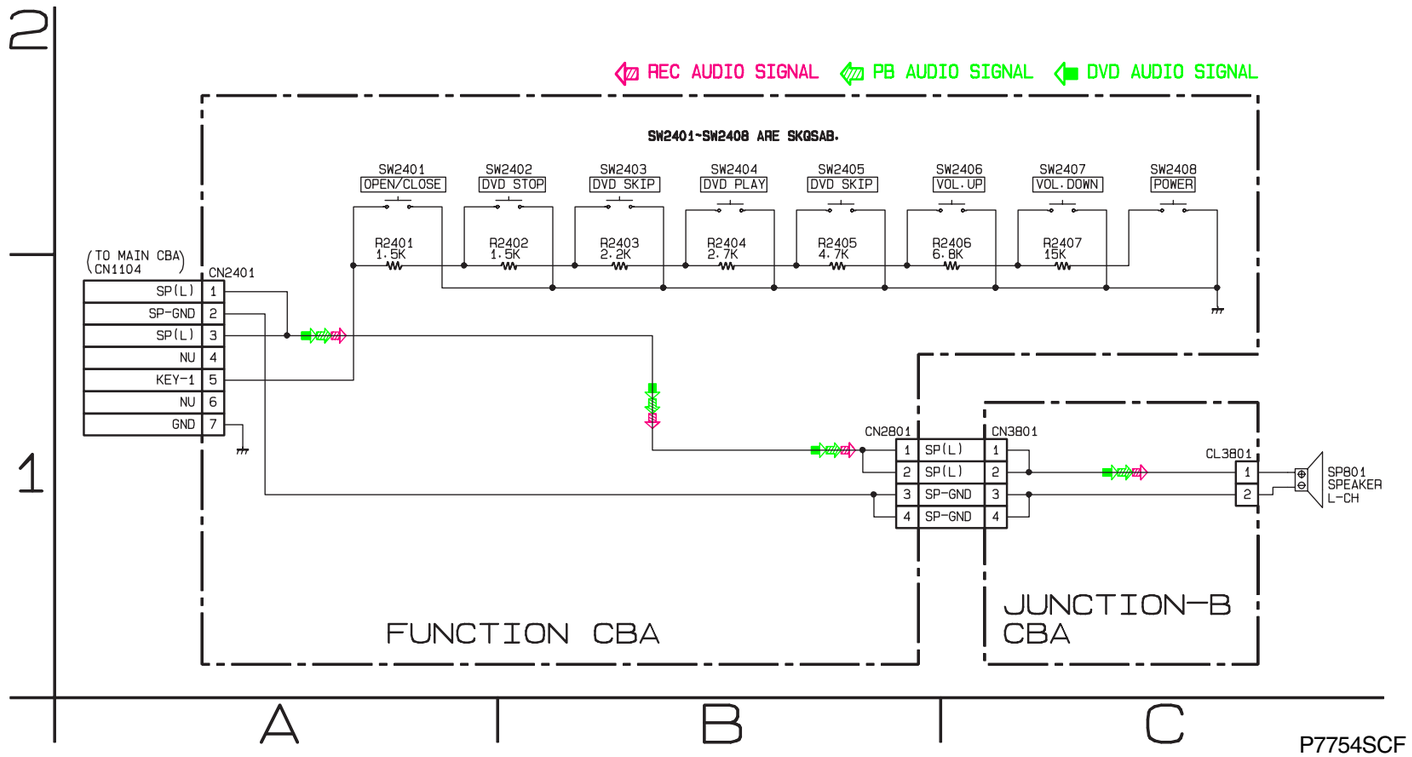


CRT Schematic Diagram < TV/VCR Section >



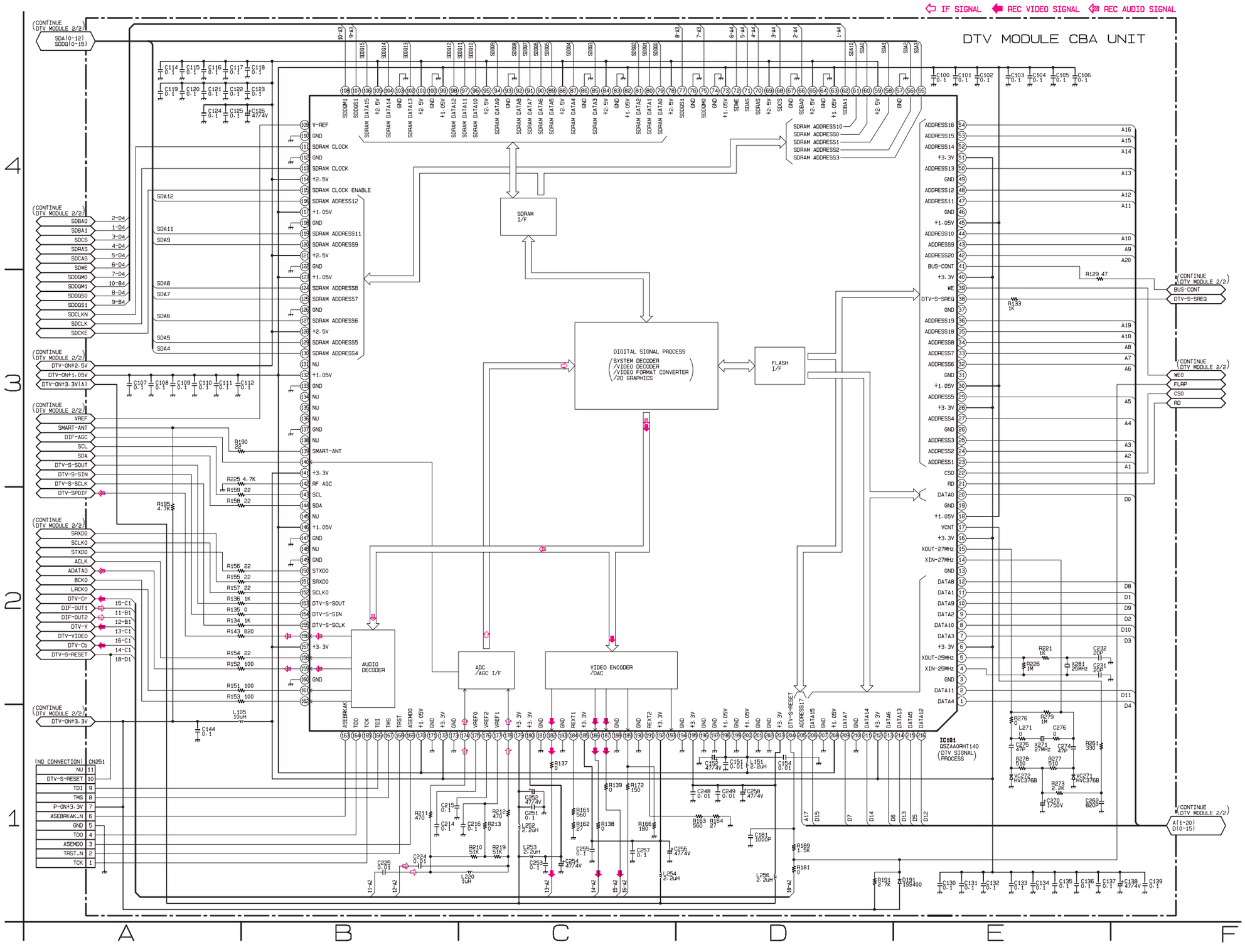
P7754SCCRT

Function & Junction-B Schematic Diagram < TV/VCR Section >

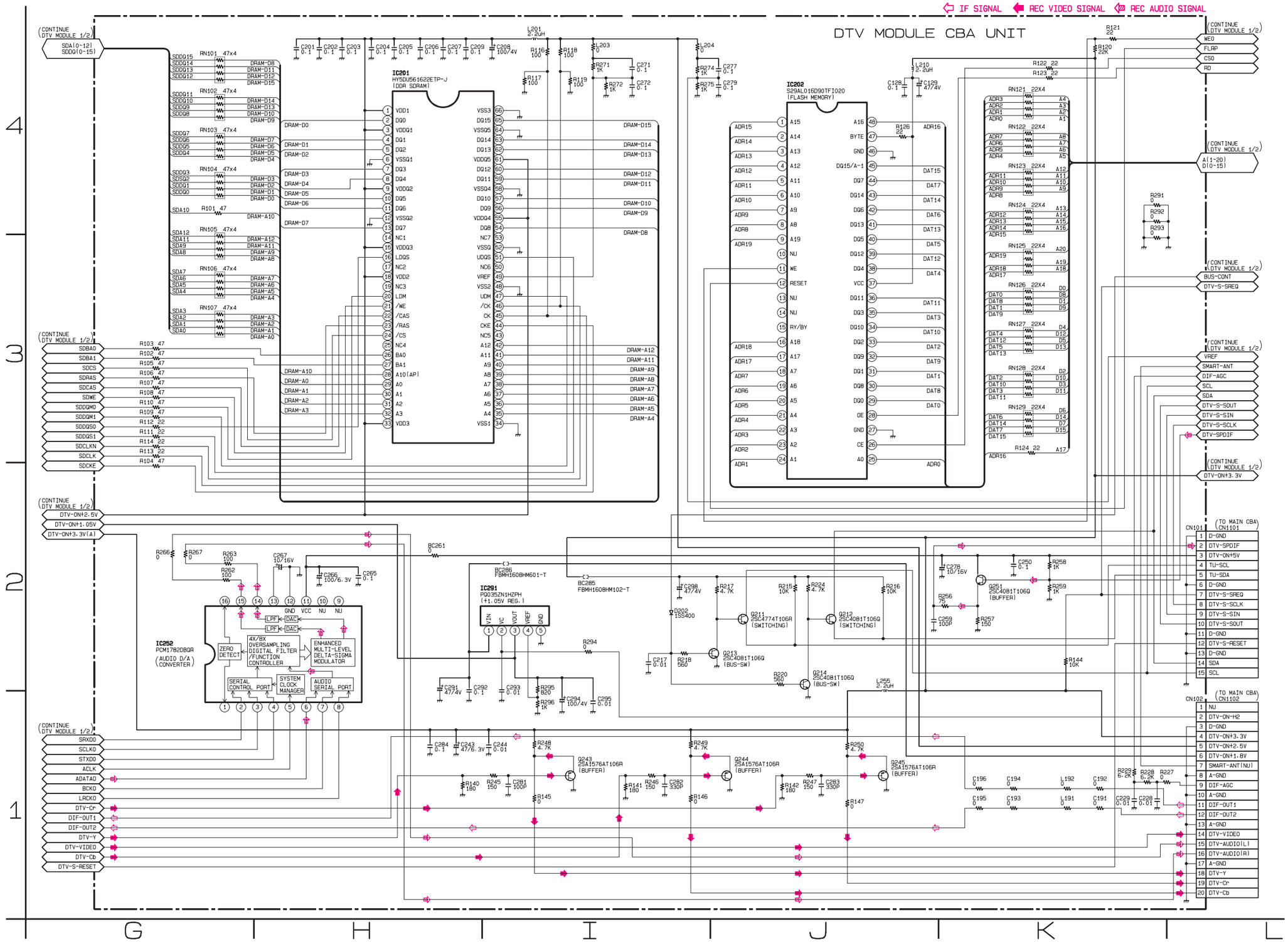


P7754SCF

DTV Module 1/2 Schematic Diagram < TV/VCR Section >



DTV Module 2/2 Schematic Diagram < TV/VCR Section >



VOLTAGE CHART

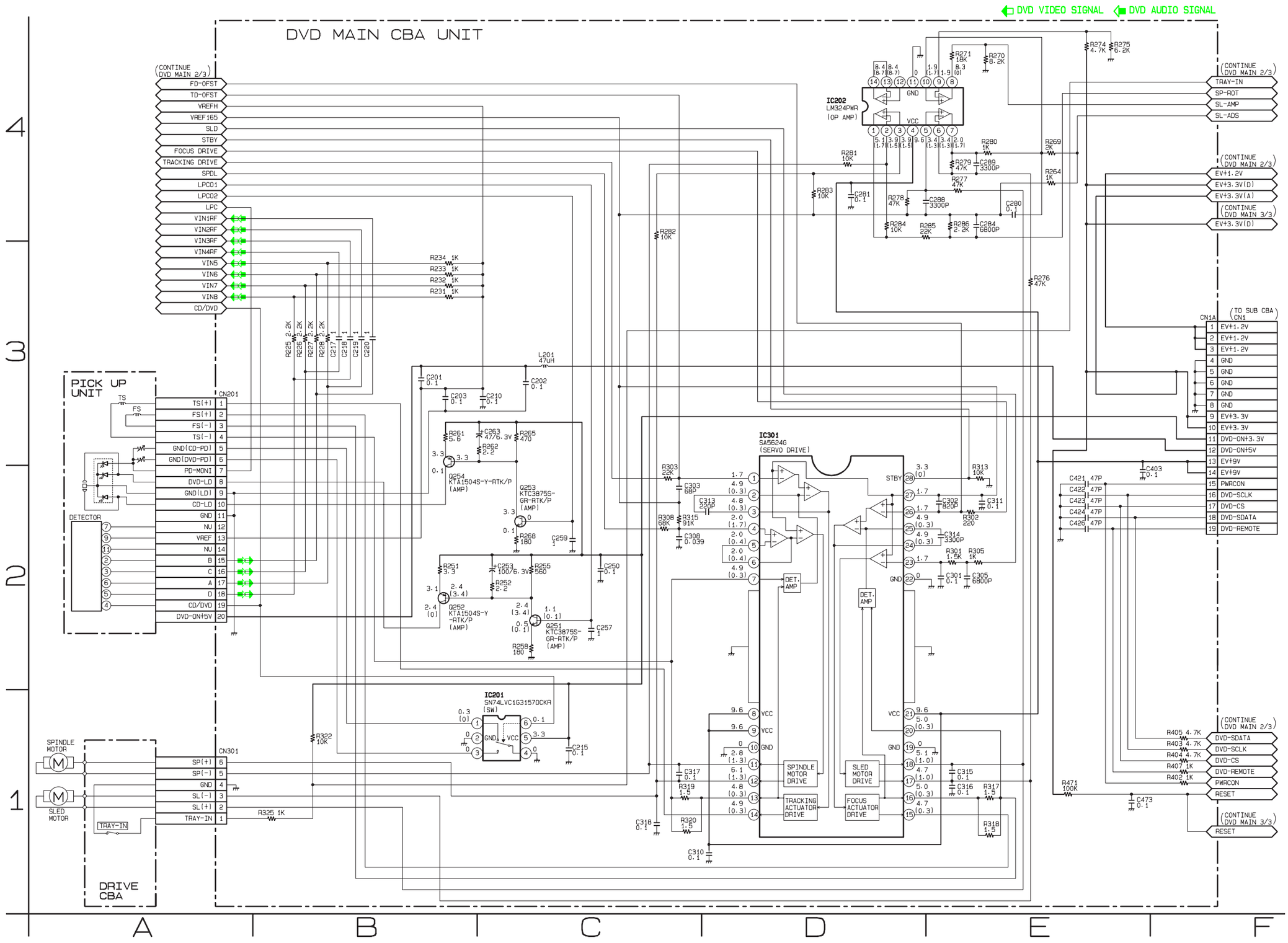
CN101

Pin No.	Voltage
1	0
2	1.9
3	5.2
4	3.4
5	3.4
6	0
7	2.8
8	3.2
9	3.3
10	0.2
11	0
12	3.4
13	0
14	3.2
15	3.2

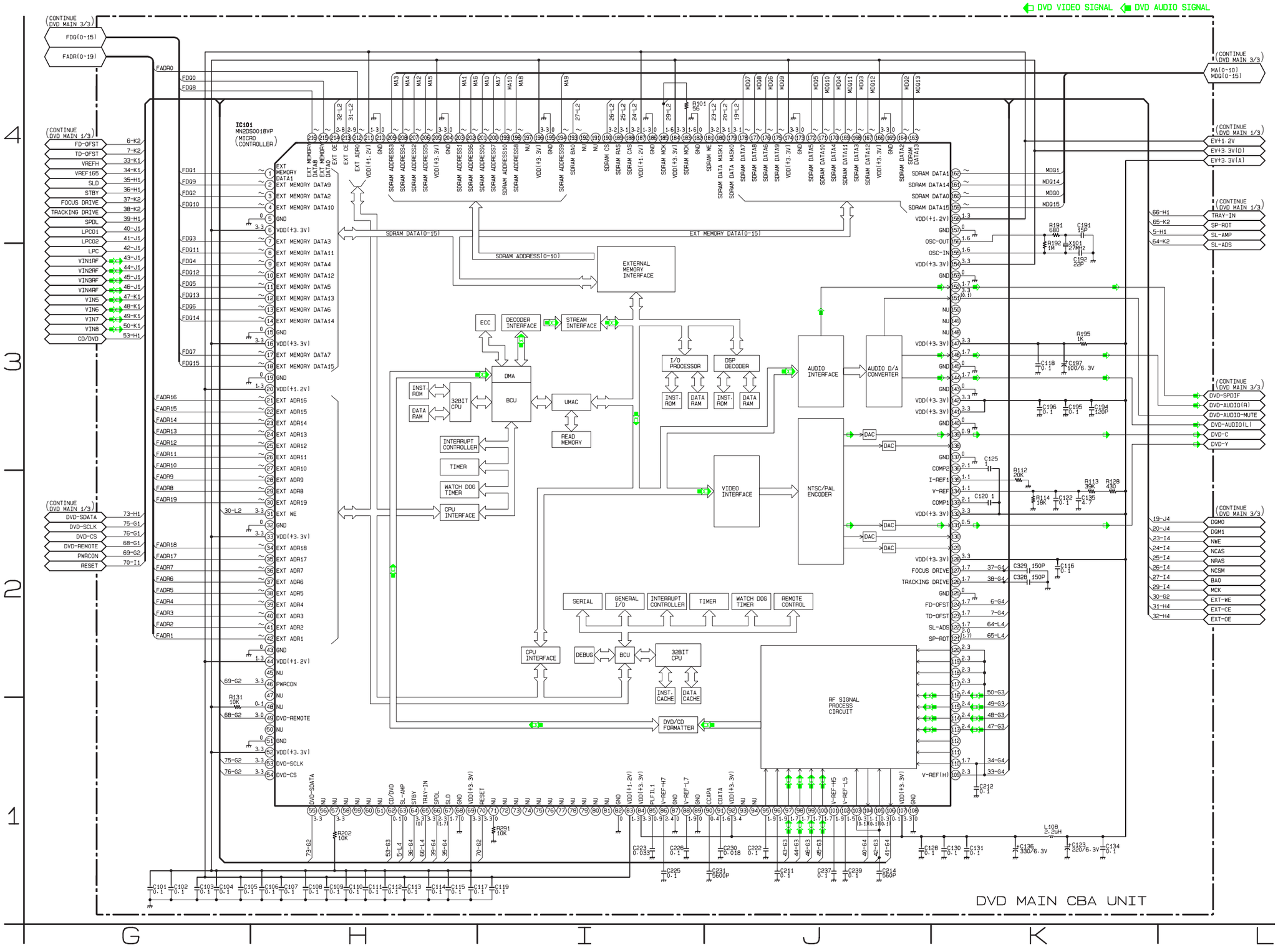
CN102

Pin No.	Voltage
1	---
2	4.9
3	0
4	3.4
5	2.6
6	1.9
7	---
8	0
9	1.7
10	0
11	0
12	0
13	0
14	2.3
15	2.6
16	2.5
17	0
18	~
19	~
20	~

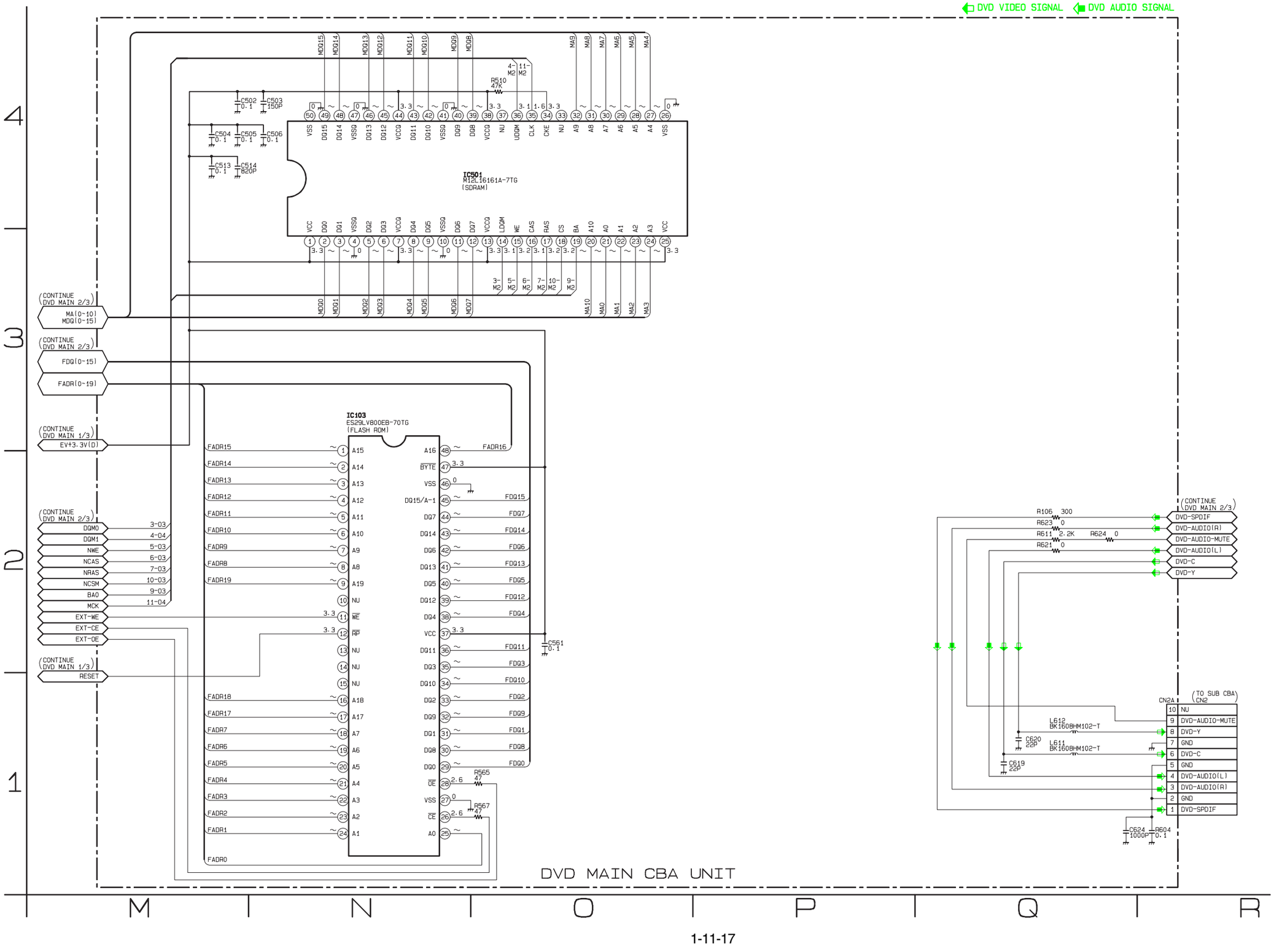
DVD Main 1/3 Schematic Diagram < DVD Section >



DVD Main 2/3 Schematic Diagram < DVD Section >



DVD Main 3/3 Schematic Diagram < DVD Section >



P7754SCD3

Main CBA Top View < TV/VCR Section >

4A 125V

CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.

ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.

TO SENSOR CBA (END-SENSOR)

BP7750F01011

C7A3 / A3 / A3C1 / A30C5

VR1601
+B ADJ

WF2
PIN 49
OF IC1401

WF4
PIN 32
OF IC1401

WF7
PIN 10
OF IC1401

WF8
PIN 9
OF IC1401

WF6
TP1403
ENV.

WF5
TP1401
V-OUT

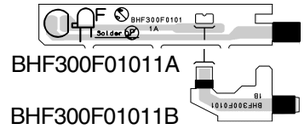
WF1
TP1402
RF-SW

WF3
TP1202
CTL-AMP -OUT

TO SENSOR CBA (START-SENSOR)

P7750TRY
E175216

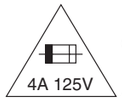
Sensor CBA Top View



BHF300F01011A

BHF300F01011B

Main CBA Bottom View < TV/VCR Section >

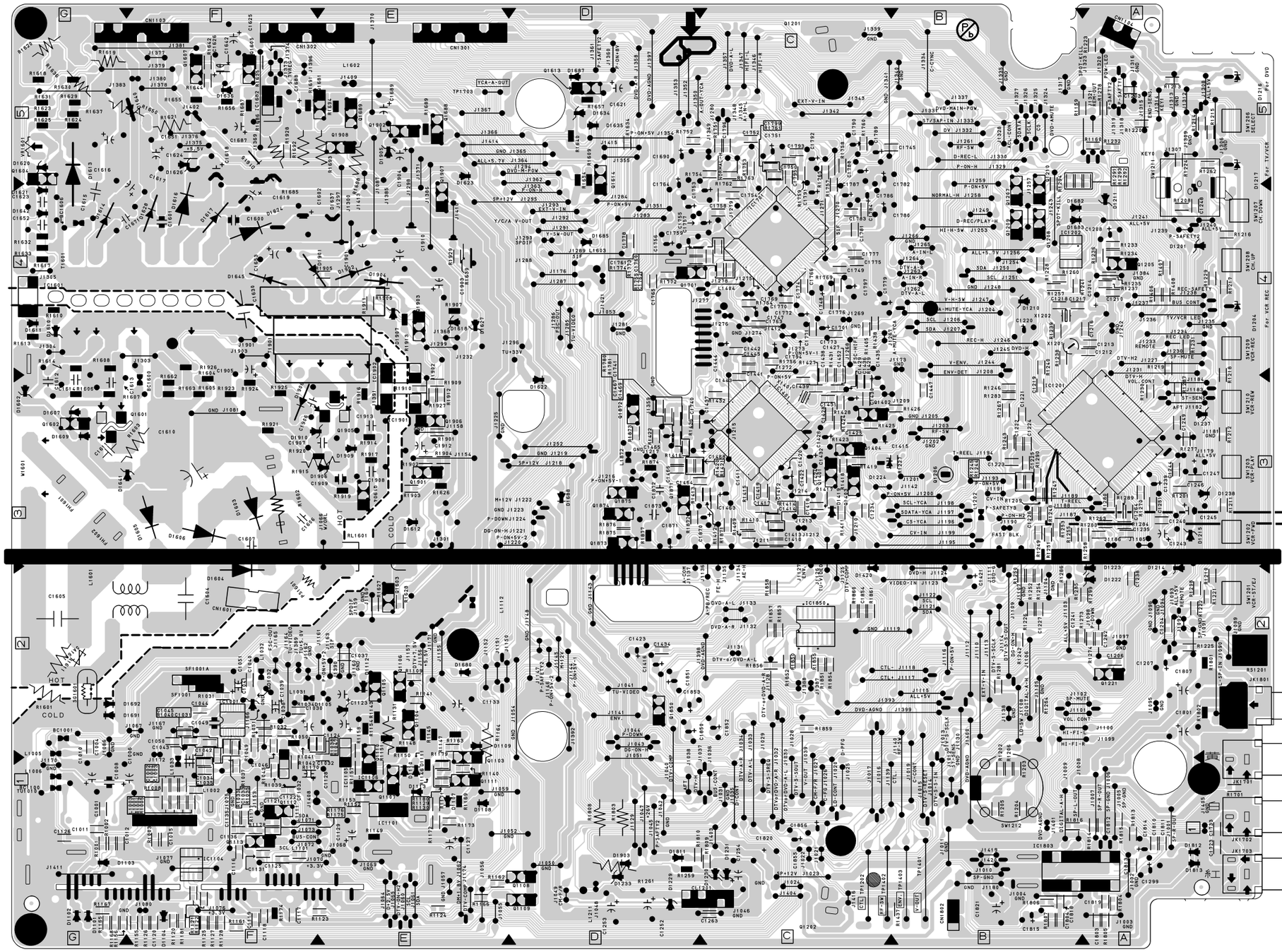


CAUTION ! : For continued protection against risk of fire, replace only with same type 4 A, 125V fuse.
ATTENTION : Utiliser un fusible de rechange de même type de 4A, 125V.

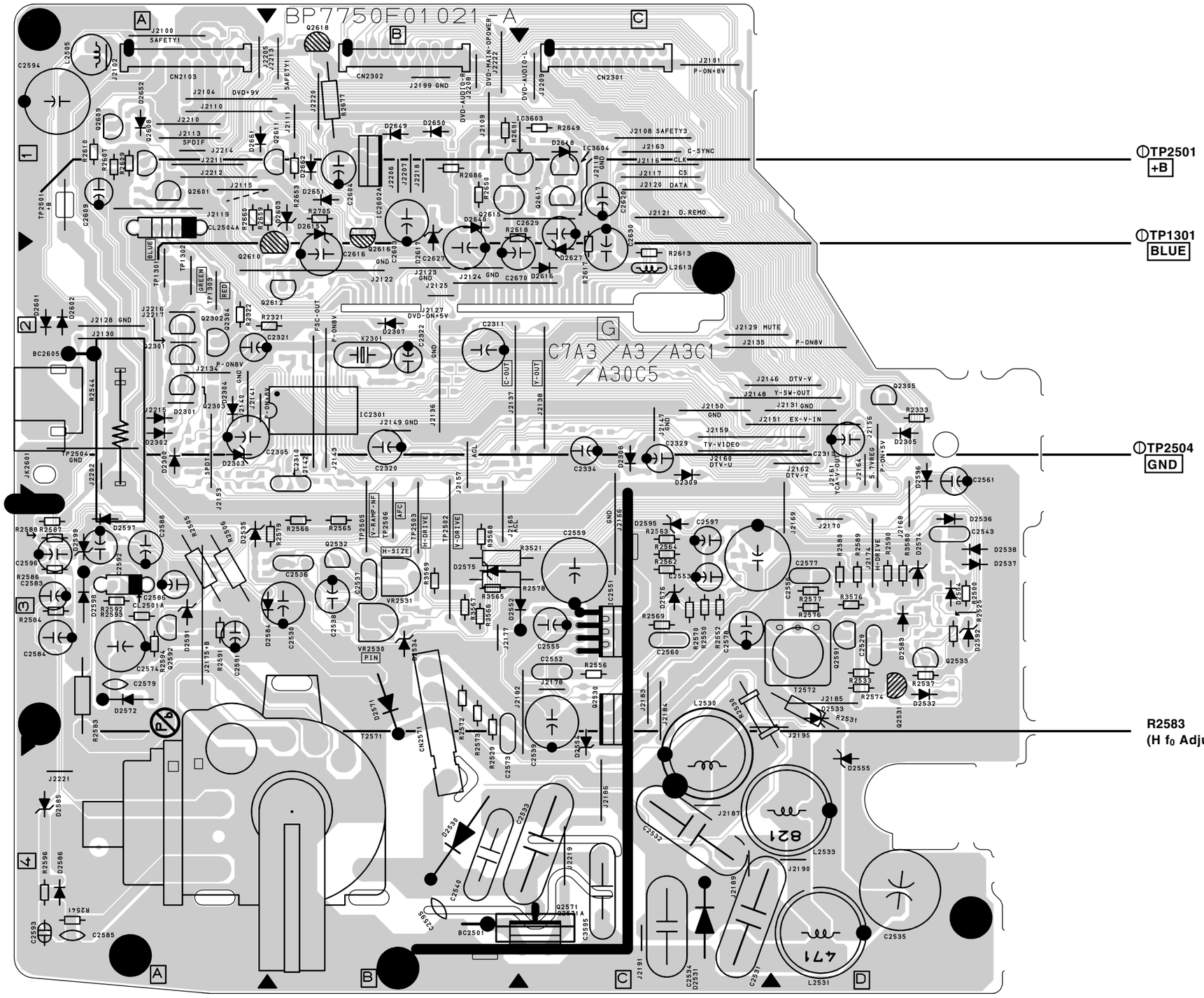
NOTE:
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION !
Fixed voltage (or Auto voltage selectable) power supply circuit is used in this unit. If Main Fuse (F1601) is blown , check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

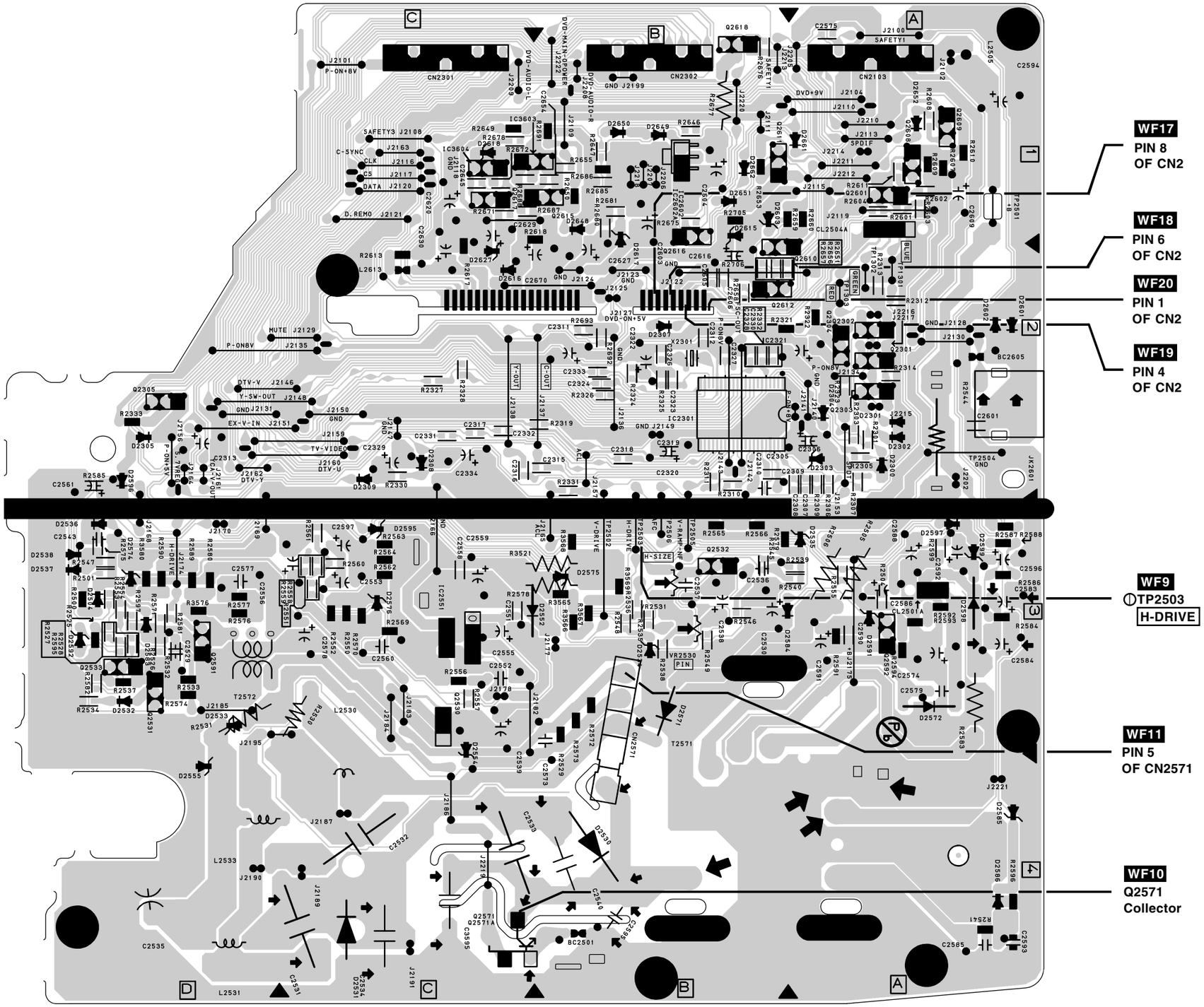
Because a hot chassis ground is present in the power supply circuit, an isolation transformer must be used. Also, in order to have the ability to increase the input slowly,when troubleshooting this type power supply circuit, a variable isolation transformer is required.



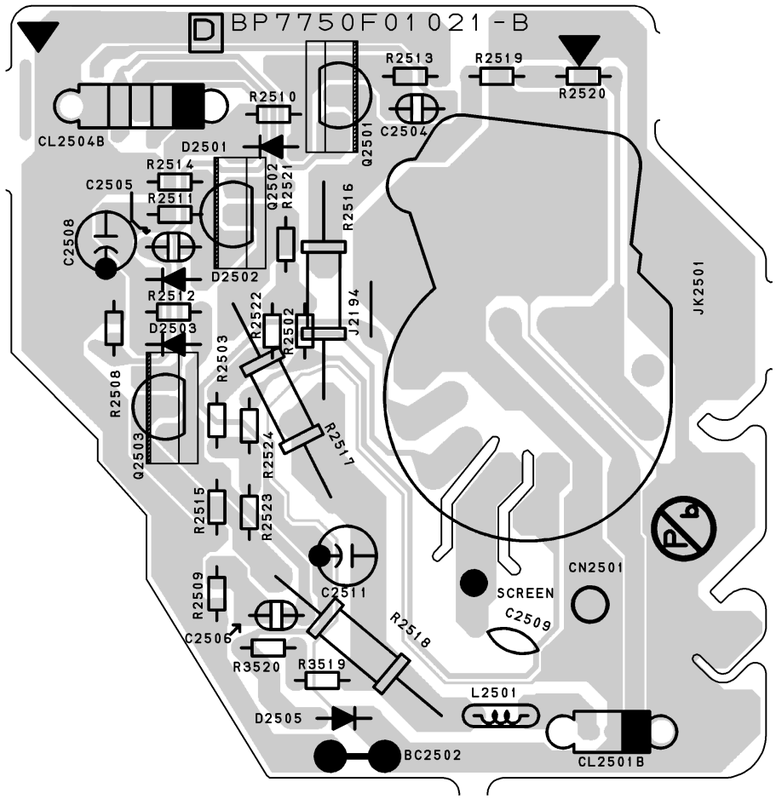
Sub CBA Top View < TV/VCR Section >



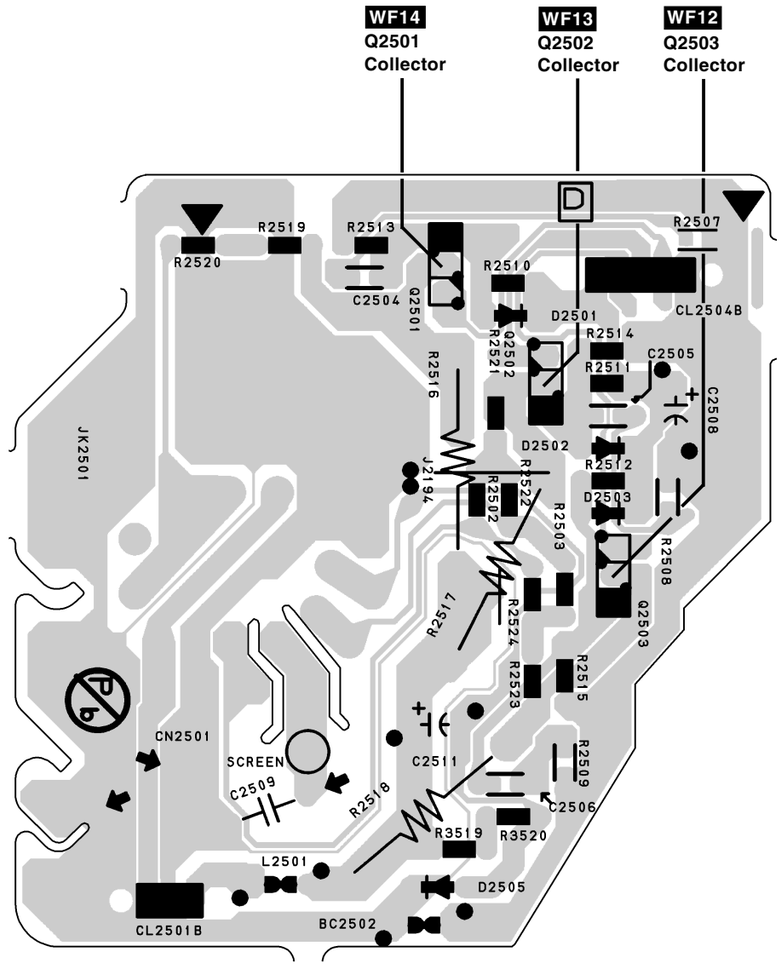
Sub CBA Bottom View < TV/VCR Section >



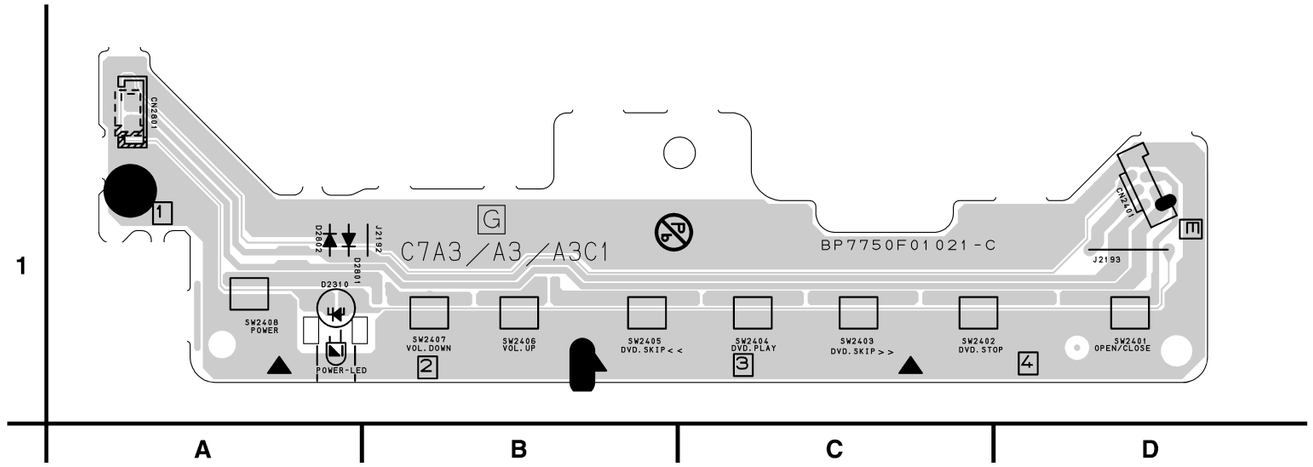
CRT CBA Top View < TV/VCR Section >



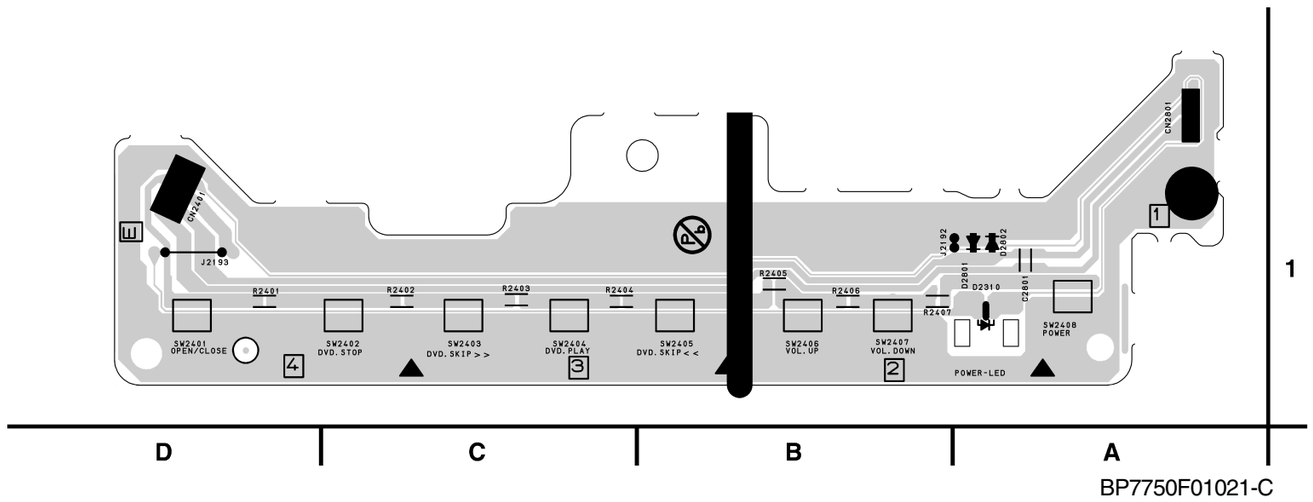
CRT CBA Bottom View < TV/VCR Section >



Function CBA Top View < TV/VCR Section >



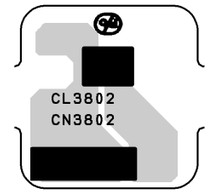
Function CBA Bottom View < TV/VCR Section >



BP7750F01021-C

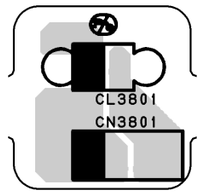
Junction-A CBA Top View < TV/VCR Section >

Junction-A CBA Bottom View < TV/VCR Section >

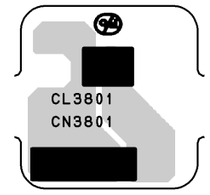


BP7750F01021-D

Junction-B CBA Top View < TV/VCR Section >



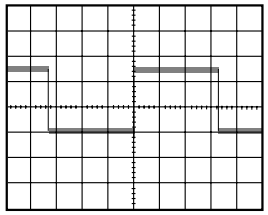
Junction-B CBA Bottom View < TV/VCR Section >



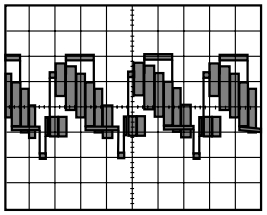
BP7750F01021-E

WAVEFORMS

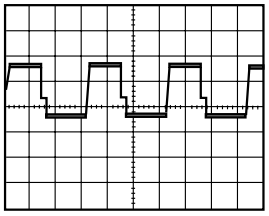
Input: NTSC Color Bar Signal (with 1kHz Audio Signal) --- WF1~WF16
DVD Video (Power on (Stop) MODE) --- WF17, WF18
CD (1KHz Play) --- WF19, WF20
INITIAL POSITION: Unplug unit from AC outlet for at least five minutes, reconnect to AC outlet and then turn power on.
(Brightness---Center Color---Center Tint---Center Contrast---Approx 70%)



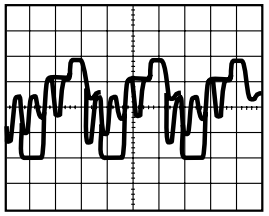
WF1 1DIV: 2V 5ms
TP1402 RF-SW



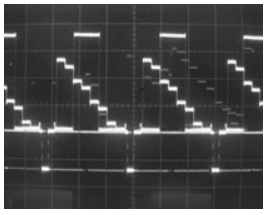
WF5 1DIV: 0.5V 20µs
TP1401 V-OUT



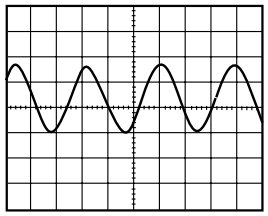
WF9 1DIV: 2V 20µs
TP2503 H-DRIVE



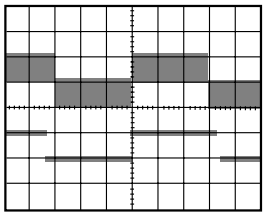
WF13 1DIV: 20V 20µs
Q2502 COLLECTOR



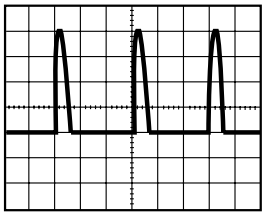
WF17 1DIV: 0.2V 20µs
CN2 PIN 8



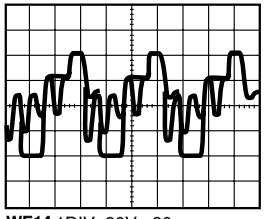
WF2 1DIV: 0.2V 0.1µs
IC1401 Pin 49



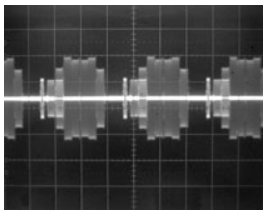
Upper: **WF6** Lower: **WF1**
1DIV: 0.2V 2DIV: 5V 5ms
TP1403 ENV. TP1402 RF-SW



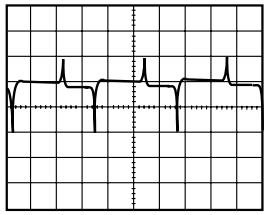
WF10 1DIV: 200V 20µs
Q2571 COLLECTOR



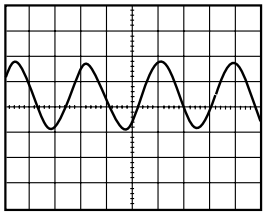
WF14 1DIV: 20V 20µs
Q2501 COLLECTOR



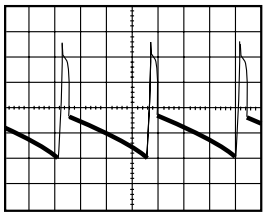
WF18 1DIV: 0.2V 20µs
CN2 PIN 6



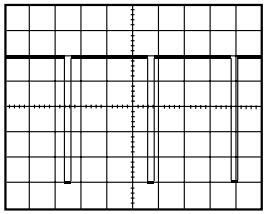
WF3 1DIV: 1V 10ms
TP1202 CTL-AMP-OUT



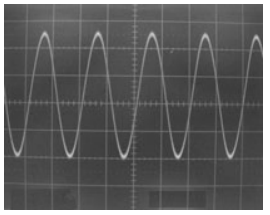
WF7 1DIV: 0.5V 0.5ms
IC1401 PIN10



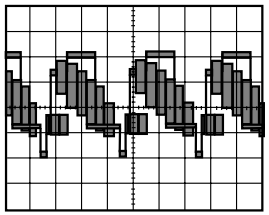
WF11 1DIV: 10V 5ms
CN2571 PIN 5



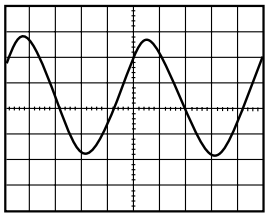
WF15 1DIV: 1V 20µs
IC1201 PIN 58



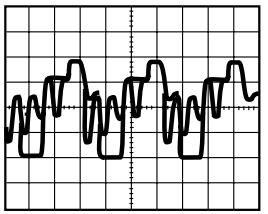
WF19 1DIV: 0.5V 0.5ms
CN2 PIN 4



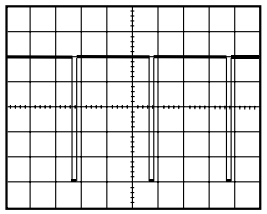
WF4 1DIV: 0.25V 20µs
IC1401 Pin 32



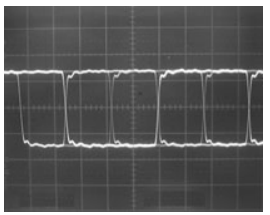
WF8 1DIV: 0.5V 0.5ms
IC1401 PIN9



WF12 1DIV: 20V 20µs
Q2503 COLLECTOR

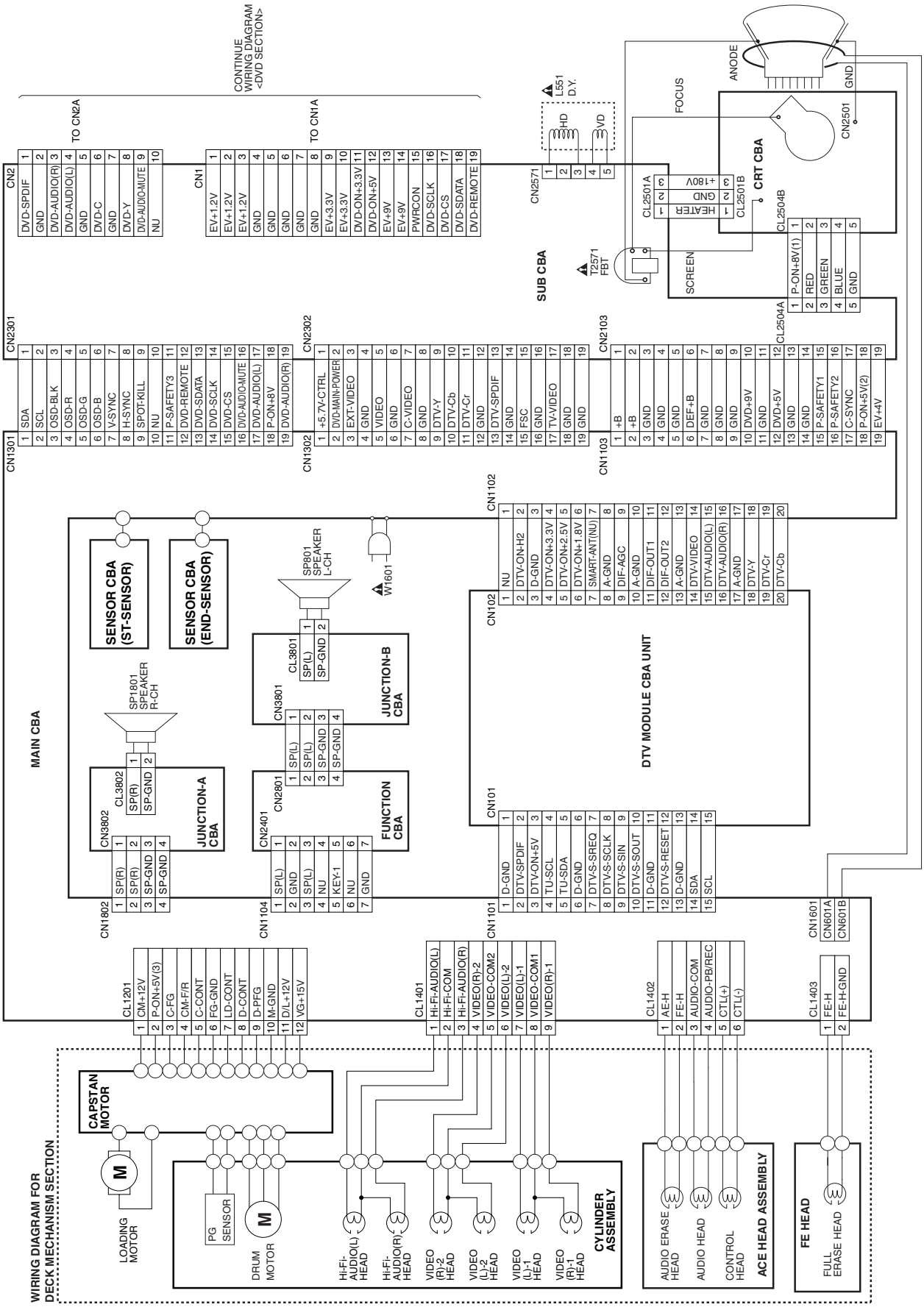


WF16 1DIV: 1V 5ms
IC1201 PIN 59

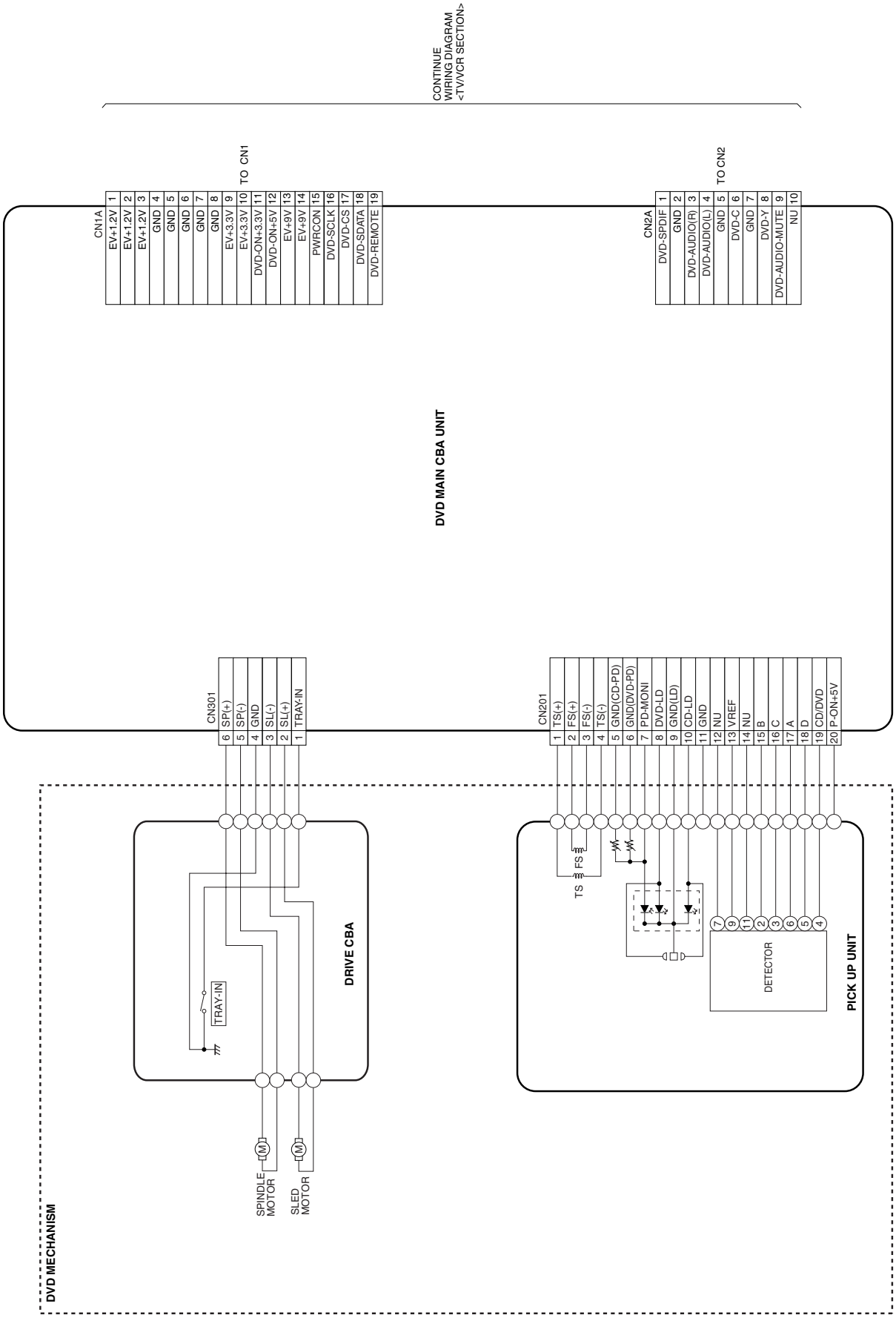


WF20 1DIV: 1V 0.1µs
CN2 PIN 1

WIRING DIAGRAM < TV/VCR Section >



WIRING DIAGRAM < DVD Section >



SYSTEM CONTROL TIMING CHARTS

< TV/VCR Section >

Mode SW: LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76 V ~ 4.50 V (4.12 V)	EJ
4.51 V ~ 5.00 V (5.00 V)	CL
0.00 V ~ 0.25 V (0.00 V)	SB
1.06 V ~ 1.50 V (1.21 V)	TL
0.66 V ~ 1.05 V (0.91 V)	FB
1.99 V ~ 2.60 V (2.17 V)	SF
1.51 V ~ 1.98 V (1.80 V)	SM
3.20 V ~ 3.75 V (3.40 V)	AU
0.26 V ~ 0.65 V (0.44 V)	AL
4.51 V ~ 5.00 V (5.00 V)	SS
2.61 V ~ 3.19 V (2.97 V)	RS

Note:

Note: EJ → RS: Loading FWD (LM-FWD / REV “H”)
RS → EJ: Loading REV (LM-FWD / REV “L”)
Stop (A) = Loading
Stop (B) = Unloading

Note:

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop (B)
TL	Stop (B) ~ Brake Cancel
FB	Brake Cancel ~ FF / REW
SF	FF / REW ~ Stop (M), (FF / REW)
SM	Stop (M), (FF / REW) ~ Stop (A)
AU	Stop (A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ RS (REW Search)
RS	RS (REW Search)

Chart 1

1) SP MODE

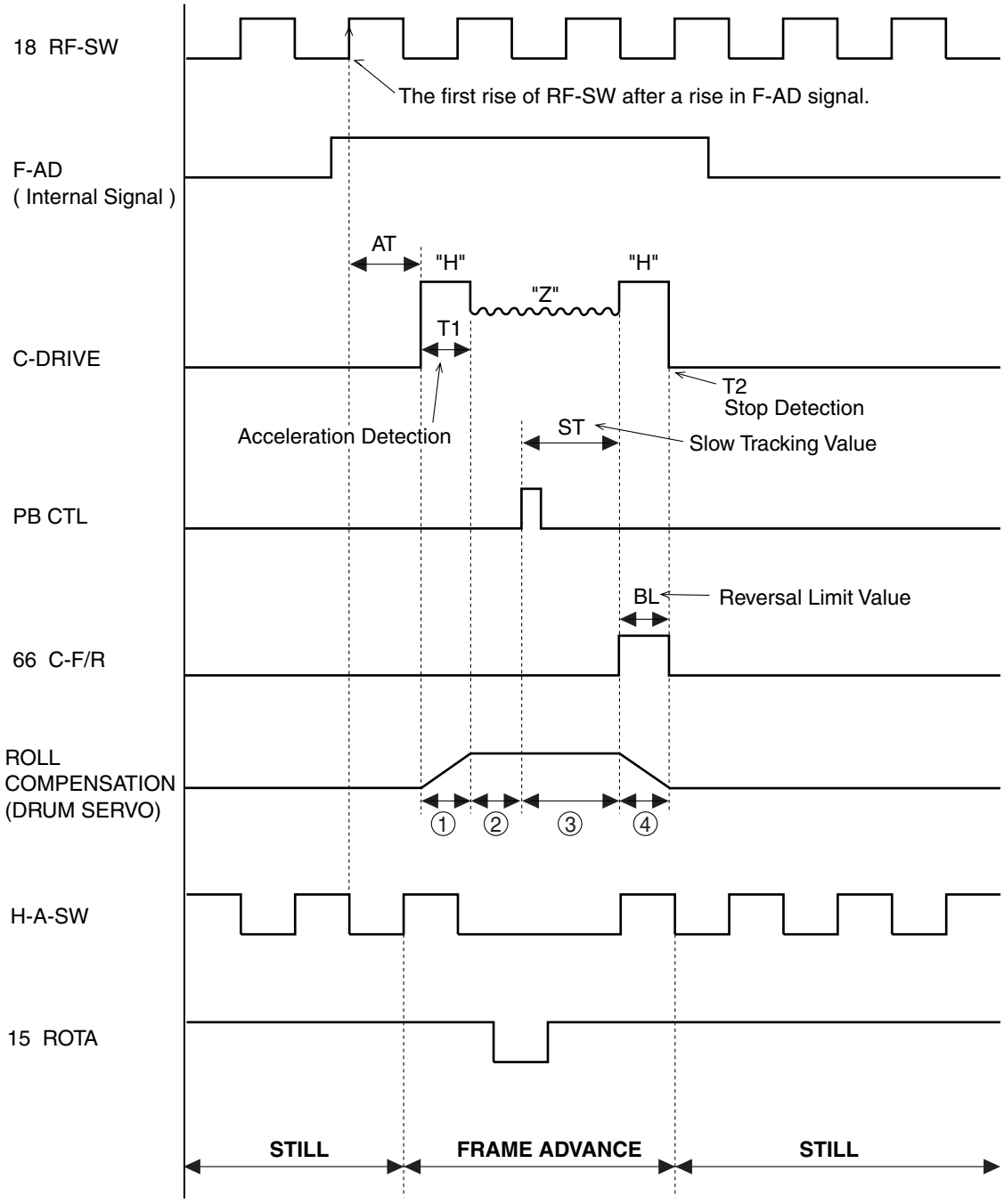


Chart 2

2) LP/EP MODE

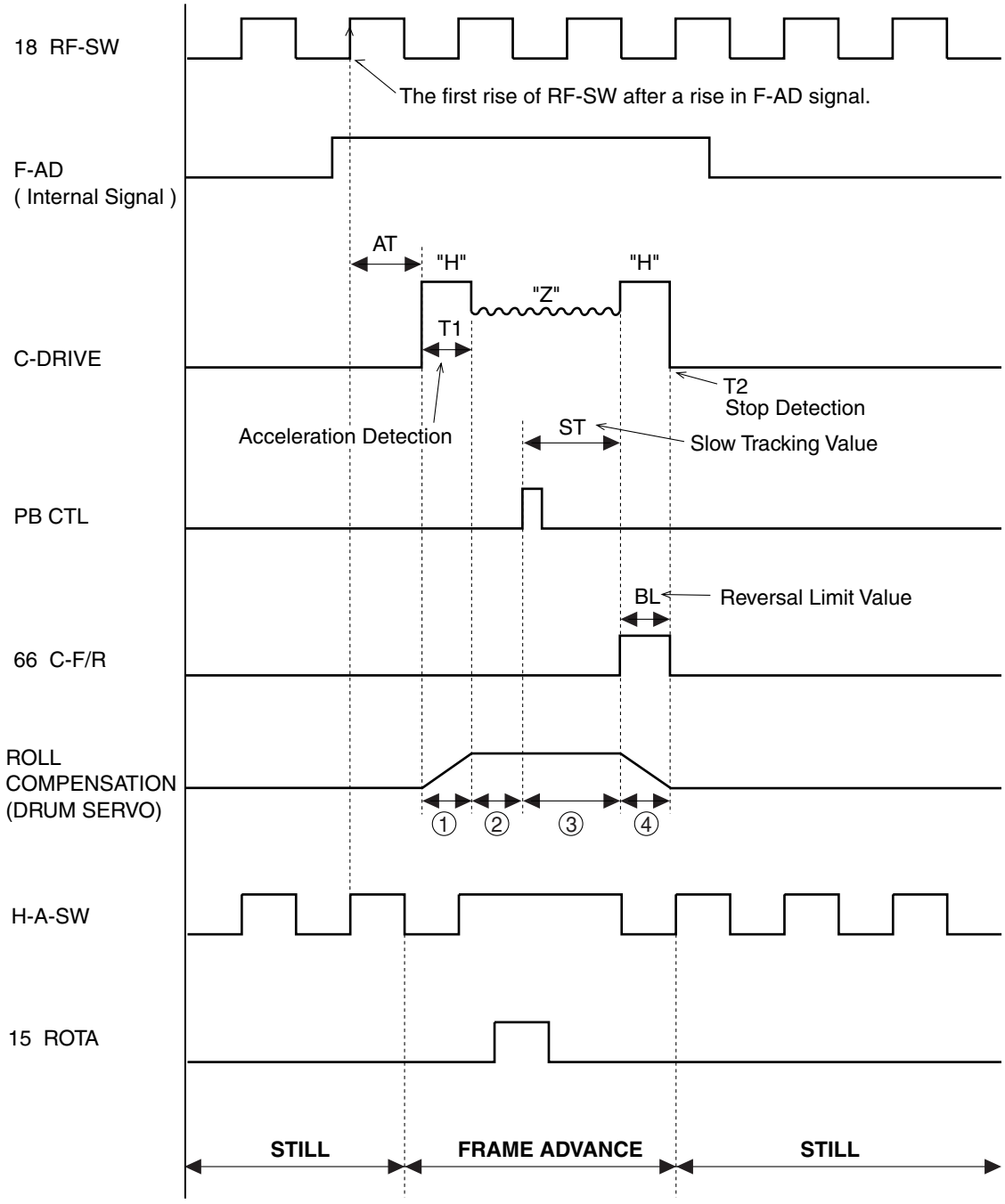


Chart 3

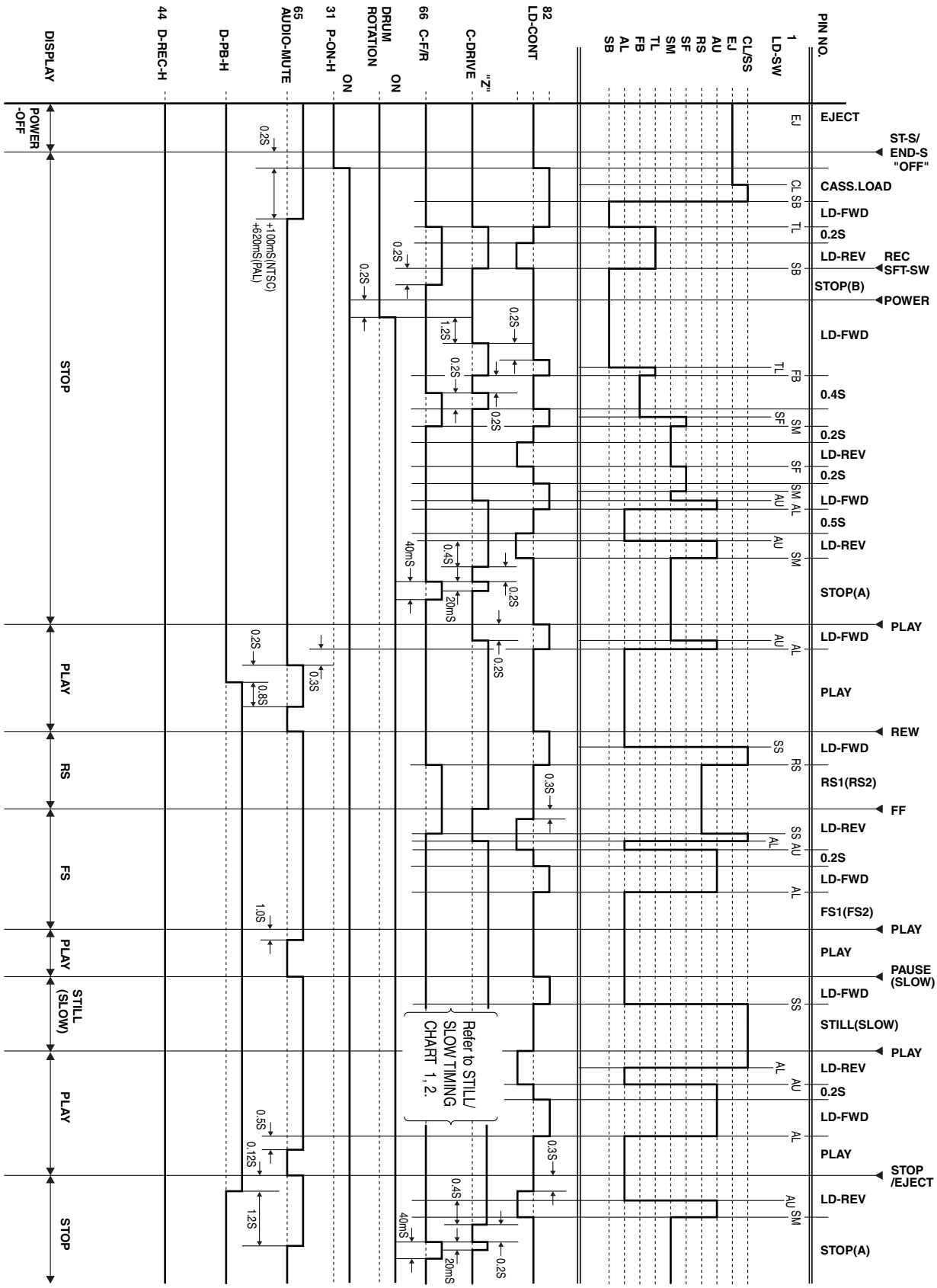
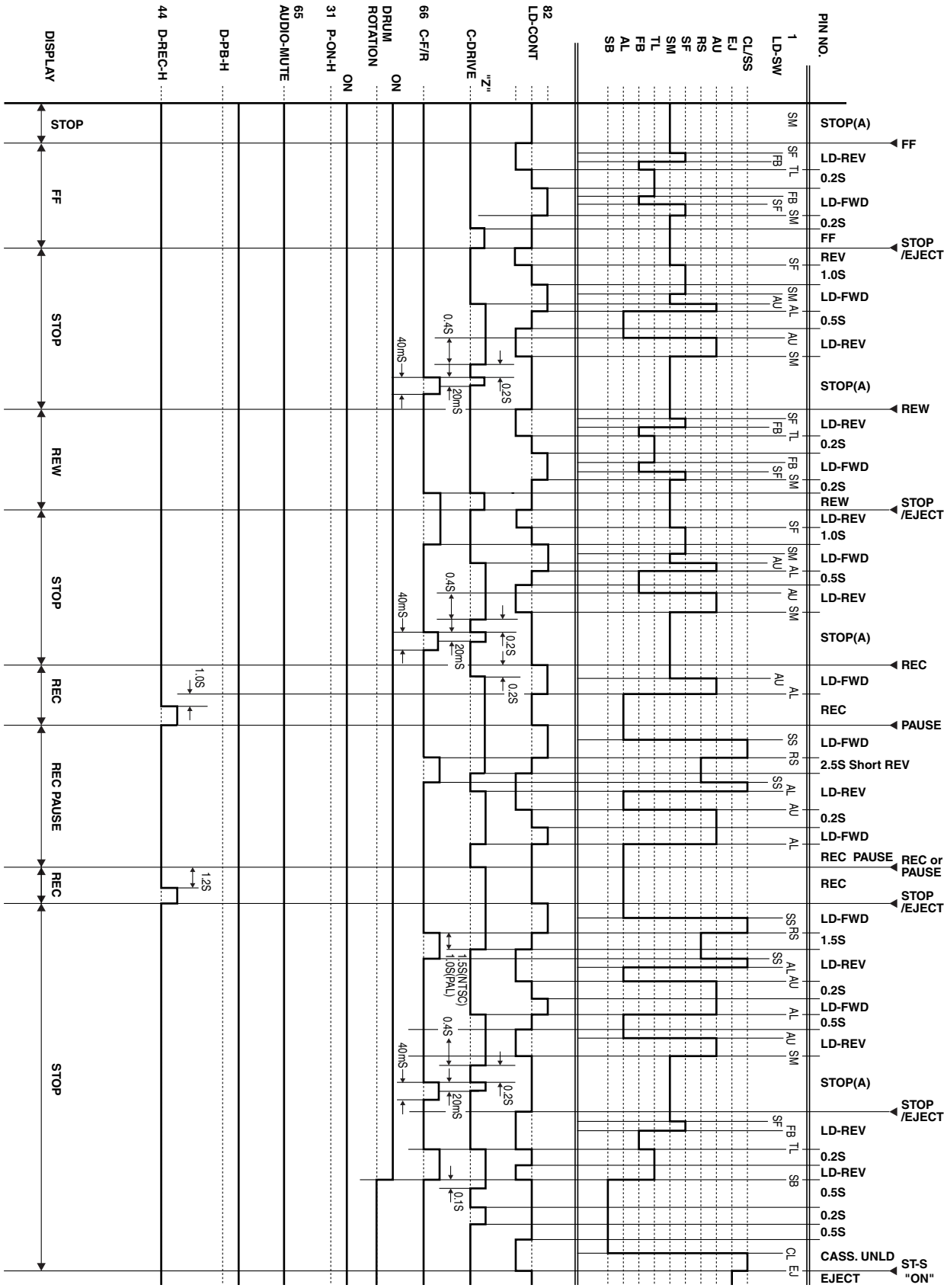
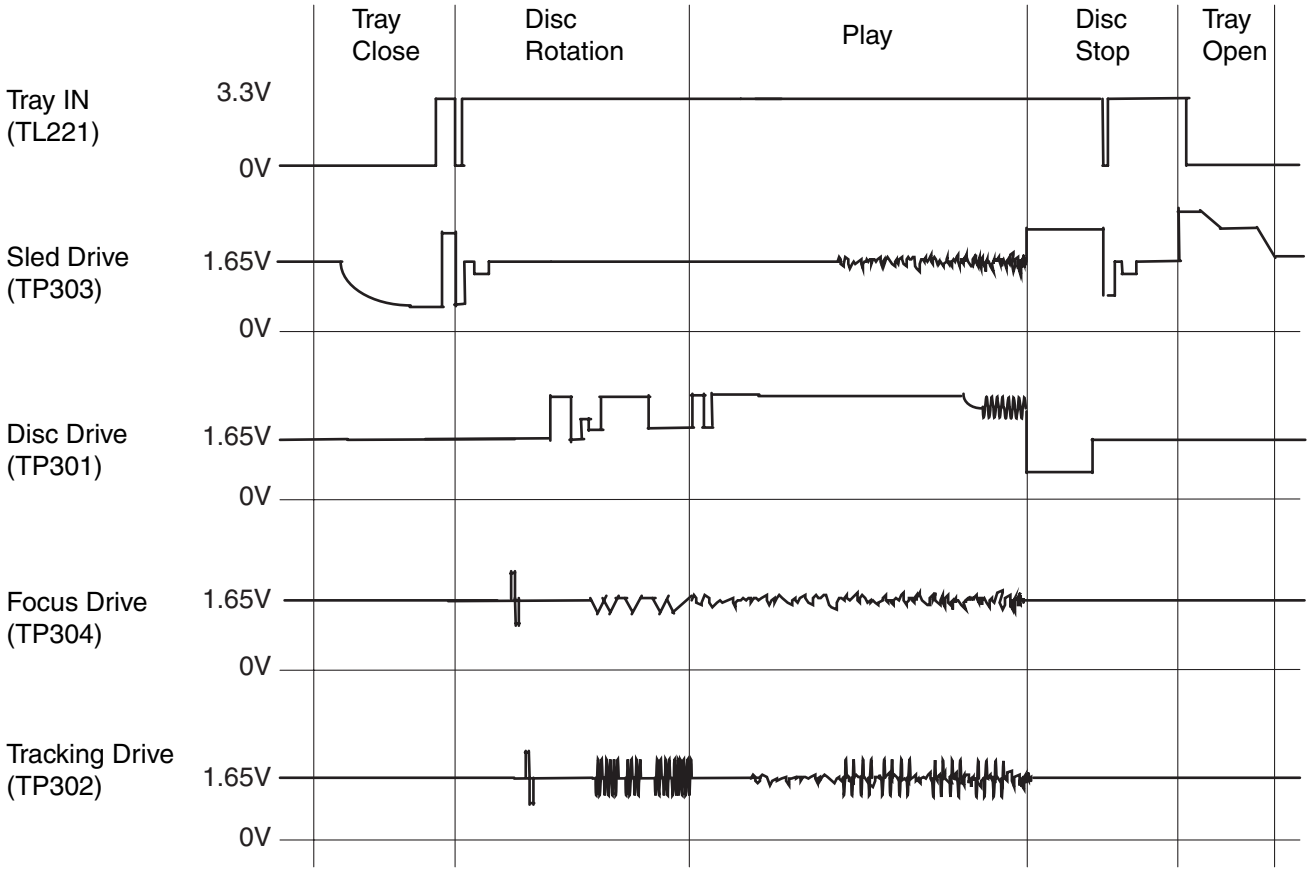

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL/SLOW -> PLAY -> STOP(A)
PIN NO.
1 LD-SW
EJ
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
82 LD-CONT
C-DRIVE "Z"
66 C-F/R
DRUM ROTATION
31 P-ON-H
65 AUDIO-MUTE
D-PB-H
44 D-REC-H
DISPLAY
POWER -OFF
EJECT
ST-S/ END-S "OFF"
CASS.LOAD
LD-FWD
0.2S
LD-REV
REC SFT-SW
STOP(B)
POWER
LD-FWD
0.4S
0.2S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
PLAY
LD-FWD
PLAY
REW
LD-FWD
RS1(RS2)
FF
LD-REV
0.2S
LD-FWD
FS1(FS2)
PLAY
PLAY
PAUSE (SLOW)
LD-FWD
STILL(SLOW)
PLAY
LD-REV
0.2S
LD-FWD
PLAY
STOP /EJECT
LD-REV
STOP(A)
STOP
PLAY
RS
FS
PLAY
STILL (SLOW)
PLAY
STOP
0.2S
+100mS(NTSC)
+620mS(PAL)
1.2S
40mS
20mS
0.8S
0.3S
1.0S
0.5S
0.12S
Refer to STILL/ SLOW TIMING CHART 1, 2.

Chart 4


2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
PIN NO.
1 LD-SW
CL/SS
EJ
AU
RS
SF
SM
TL
FB
AL
SB
82 LD-CONT
C-DRIVE "Z"
66 C-F/R
DRUM ROTATION
31 P-ON-H
65 AUDIO-MUTE
D-PB-H
44 D-REC-H
DISPLAY
STOP(A)
FF
LD-REV
0.2S
LD-FWD
REV
1.0S
0.5S
REW
2.5S Short REV
REC
REC PAUSE
1.5S(NTSC)
1.0S(PAL)
0.4S
40mS
20mS
0.1S
CASS. UNLD
EJECT
ST-S "ON"
STOP
/EJECT
PAUSE
REC or PAUSE
ON

< DVD Section >

Tray Close ~ Play / Play ~ Tray Open



IC PIN FUNCTION DESCRIPTIONS

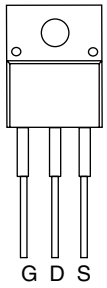
IC1201 (TV/VCR Micro Controller IC)

Pin No.	Signal Name	Function
1	LD-SW	Loading Switch Input
2	DVD-LED	DVD LED Control Output
3	P-SAFETY 2	Power Supply Failure Detection 2
4	ST/SAP-IN	Tuner Stereo/Sap Detector Signal Input
5	KEY-0	Key Input 0
6	KEY-1	Key Input 1
7	END-SENS	End-Sensor
8	AFT	AFT Voltage Input
9	ST-SENS	Start-Sensor
10	V-ENV	Video Envelope Input
11	VOLUME	Volume Control Signal Output
12	SP-MUTE	Speaker Mute Signal Output
13	DV-SYNC	Artificial Vertical Sync Output
14	REMOTE	Remote Control Signal Input
15	ROTA	Color Phase Rotary Changeover Signal
16	V-H-SW	Video Head Amp Switching Pulse
17	ENV-DET	Envelope Comparator Signal
18	RF-SW	Video Head Switching Pulse
19	Hi-Fi-H-SW	HiFi Audio Head Switching Pulse
20	D-REC /PB-H	Delayed Record/Playback Control Signal
21	REC-LED	REC LED Control Signal
22	NORMAL-H	Audio Mode Input Signal
23	NU	Not Used
24	AUDIO-MUTE	Audio Mute Signal Output
25	DVD-REMOTE	Remote Control Signal Output to DVD
26	TV/VCR-LED	TV/VCR LED Control Signal
27	NU	Not Used
28	DTV-ON-H2	DTV On Signal 2 at High
29	D-REC /PB-L	Delayed Record/Playback Control Signal
30	DTV-ON-H	DTV On Signal at High
31	P-ON-H	Power On Signal at High
32	BUS-CONT	Bus Control
33	REC-SAFETY	Record Protection Tab Detection
34	RESET	System Reset Signal (Reset = “L”)
35	XC-IN	Sub Clock (32kHz)
36	XC-OUT	Sub Clock (32kHz)
37	TIMER+5V	VCC
38	X-IN	Main Clock (10.6MHz)
39	X-OUT	Main Clock (10.6MHz)
40	GND	GND
41	SPOT-KILL	Counter Measure for Spot
42	DVD-MAIN-POWER	Power On Signal at High for DVD
43	CLKSEL	Clock Select (GND)
44	D-REC-H	Delayed Record Control Signal
45	I2C-OPEN	Chip Select
46	GND	GND
47	DVD-AUDIO-MUTE	DVD Audio Mute Signal
48	DVD-H	DVD On Signal at High
49	GND	GND
50	DVD-CS	DVD Interface Chip Select
51	DVD-SCLK	DVD Interface Serial Clock
52	DVD-SDATA	DVD Interface Serial Data
53	P-ON+5V	OSD VCC
54	HLF	Horizontal Filter
55	V-HOLD	Vertical Hold
56	CV-IN	Composite Video Signal Input
57	GND	GND
58	H-SYNC	Horizontal Sync Input
59	V-SYNC	Vertical Sync Input
60	OSD-BLK	Output for Picture Cut off
61	NU	Not Used
62	OSD-B	Blue Signal Output
63	OSD-G	Green Signal Output
64	OSD-R	Red Signal Output
65	DTV-S-SOUT	DTV Serial Data Output
66	DTV-S-SIN	DTV Serial Data Input
67	DTV-S-SCLK	DTV Serial Clock
68	YCA-SDA	YCA Serial Data
69	YCA-CS	YCA Chip Select

Pin No.	Signal Name	Function
70	YCA-SCL	YCA Serial Clock
71	SCL	Serial Clock
72	SDA	Serial Data
73	C-F/R	Capstan Motor FWD/REV Control Signal
74	C-SYNC	Composite Sync Input
75	P-ON-H2	Power On Signal at High
76	C-CONT	Capstan Motor Control Signal
77	D-CONT	Drum Motor Control Signal
78	P-SAFETY 3	Power Supply Failure Detection 3
79	NU	Not Used
80	T-REEL	Take Up Reel Rotation Signal
81	DTV-S-RESET	DTV Reset
82	LD-CONT	Loading Motor Control Signal
83	DIGITAL-AUDIO-H	Digital Audio Signal
84	P-DOWN	Power Voltage Down Detector Signal
85	DTV-S-SREQ	DTV Serial Request
86	NU	Not Used
87	C-FG	Capstan Motor Rotation Detection Pulse
88	GND	GND (AMP)
89	NU	Not Used
90	D-PFG	Drum Motor Pulse Generator
91	NU	Not Used
92	AMP-VREF-IN	Standard Voltage Input
93	C	Ext. Capacitor Connection Port for Analog Amp
94	CTL (-)	Record/Playback Control Signal (-)
95	CTL (+)	Record/Playback Control Signal (+)
96	AMPC	Amp Capacitor
97	CTL-AMP-OUT	Control Amp Output
98	P-ON+5V	Power Supply for AMP
99	AL+5V	A/D, D/A Standard Voltage
100	P-SAFETY 1	Power Supply Failure Detection 1

LEAD IDENTIFICATIONS

2SK3563
2SK3757(Q)



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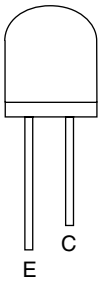
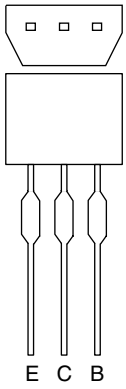
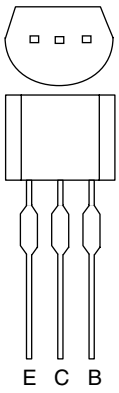


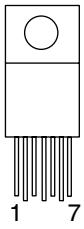


KRA103M-AT/P
KRC103M-AT/P
KTA1267-GR-AT/P
KTC3199-GR-AT/P
KTC3199-Y-AT/P



2SA950-O(TE2 F T)
2SC2120-O(TE2 F T)
2SC1627-Y(TE2.F.T)
2SC2482
2SC3331(T)
2SD400(F)

LA78040A



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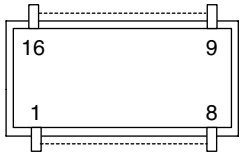

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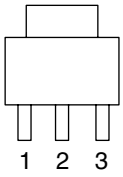
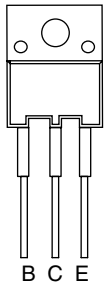
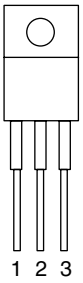


1: GND
2: Vout
3: Vin

2SC5885000RF

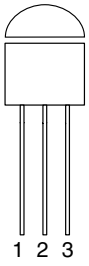


KIA7805API/P



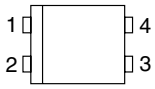
1: IN
2: GND
3: OUT

KIA431-AT/P



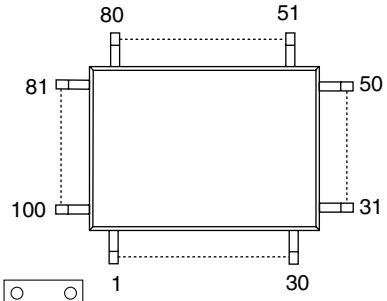
1: R
2: A
3: K

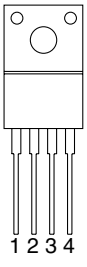
LTV-817C-F



1: A
2: K
3: E
4: C

M3776AMFH-BB1GP

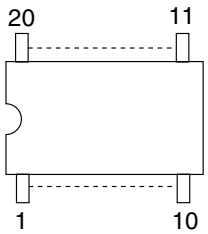




PQ070XF01SZH

1: Vin
2: Vo
3: GND
4: Vc

M61116FP TF0G



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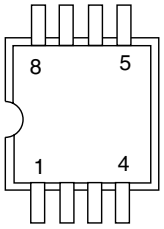

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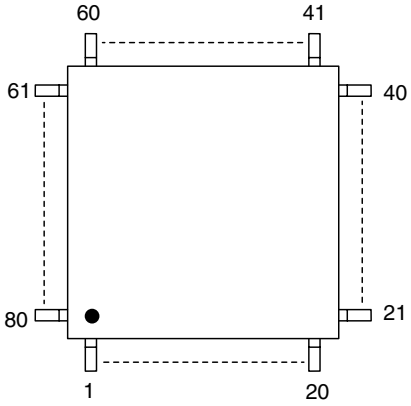
LA72670BM-MPB-E



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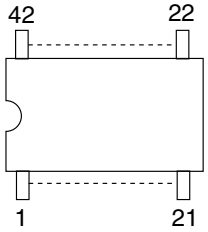

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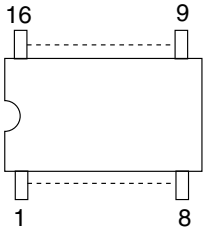
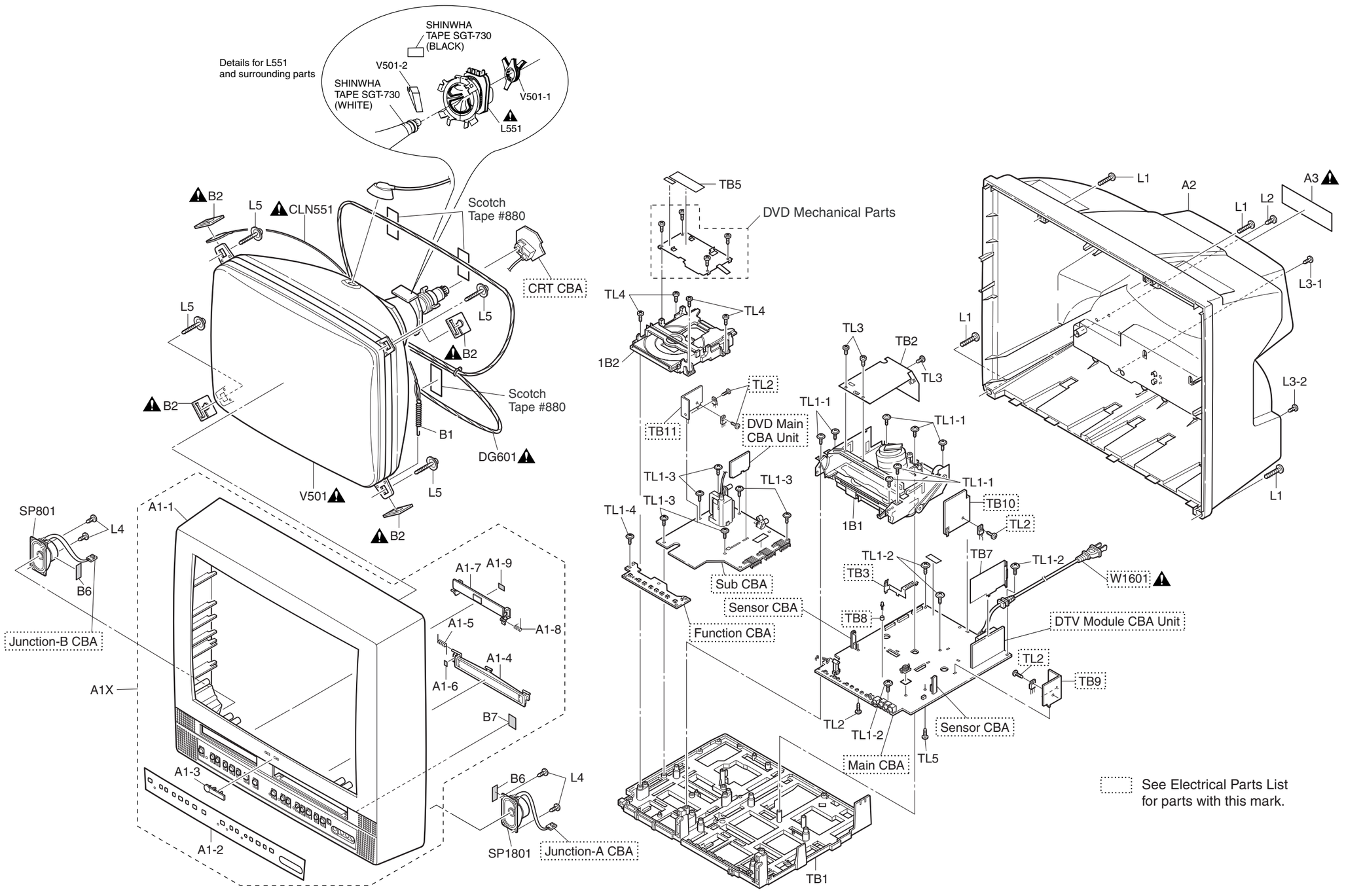


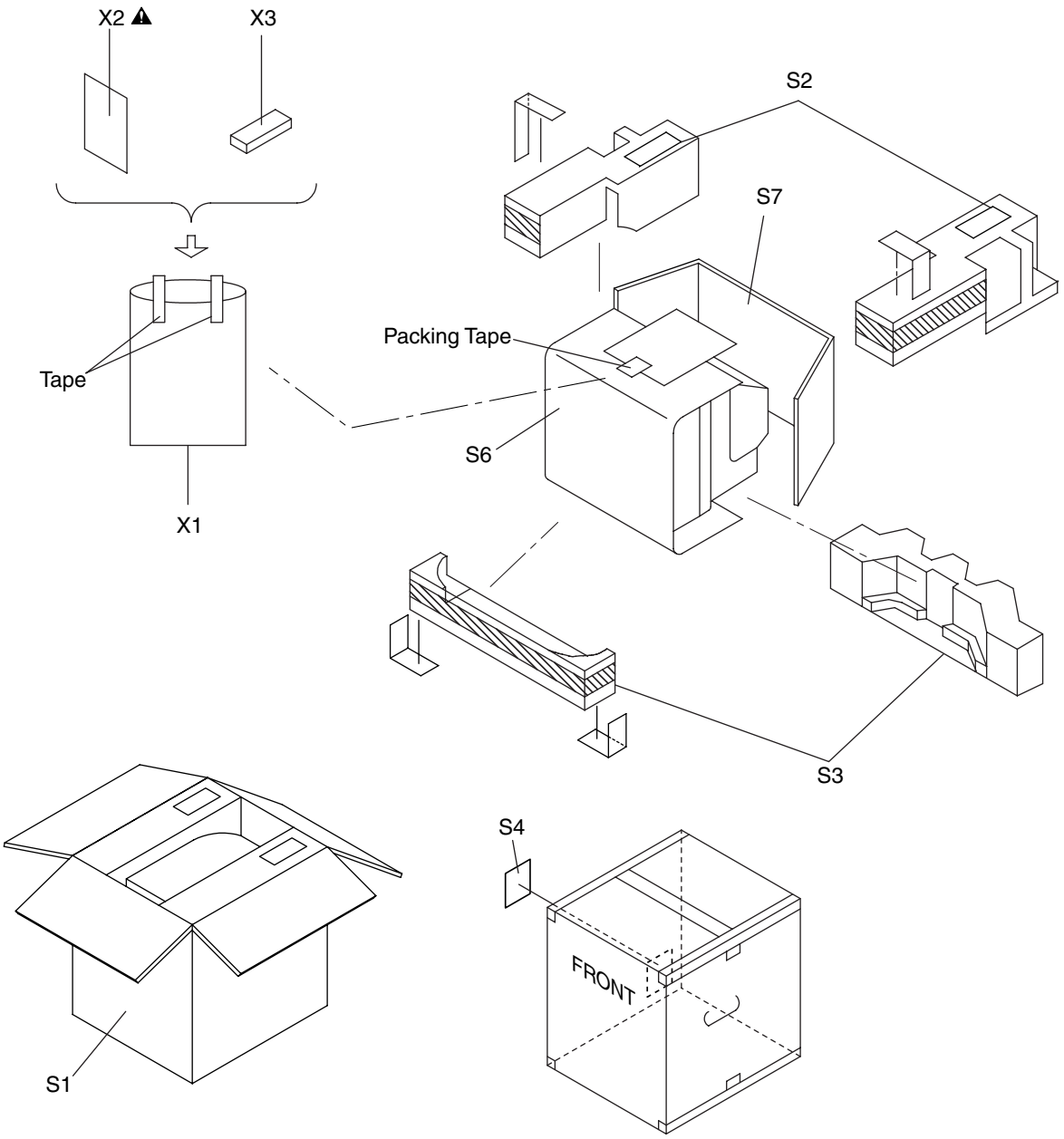
Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

EXPLODED VIEWS

Cabinet



Packing



MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE: Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1X	FRONT CABINET ASSEMBLY P7754UT	1EM121836
A1-1	FRONT CABINET T1202UC	1EM121335
A1-2	CONTROL PLATE P7754UT	1EM221549
A1-3	BADGE BRAND T7310UL ~MAGNAVOX~	0EM407275
A1-4	CASSETTE DOOR T1202UC	1EM422886
A1-5	SPRING DOOR T1200UA	1EM422903
A1-6	CLOTH(4X7XT0.7) T5000UA	0EM404974
A1-7	TRAY PANEL TD930JA	0EM301939A
A1-8	TRAY SPRING TD707UH	0EM408552
A1-9	CLOTH(B) L5201U0 15X10X1.0T	0EM400076
A2	REAR CABINET P7754UT	1EM121837
A3⚠	RATING LABEL P7754UT	---------
1B1	DECK ASSEMBLY CZD014/VM2466	N2466FT
1B2	DVD MECHA X7 TRIPLE N79U1KVM	N79U1KVM
B1	SPRING TENSION B0080B0 EM40808	26WH006
B2⚠	DEGAUSS HOLDER L2401UB	1EM420205
B6	CLOTH(10X30XT0.5) B5900UA	0EM404486
B7	CLOTH(15X10XT0.5) L9700UA	0EM405038
CLN551⚠	CRT GND WIRE	WX1L7820-003
DG601⚠	DEGAUSSING COIL (AL) ZTM054A	LLBH00ZTM069
L1	SCREW P-TIGHT 4X18 BIND HEAD +	GBJP4180
L2	SCREW TAPPING M4X14	DBT14140
L3-1	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L3-2	SCREW P-TIGHT 3X10 BIND HEAD+	GBHP3100
L4	SCREW P-TIGHT 3X10 BIND HEAD+	GBJP3100
L5	SCREW L1500UA	0EM406142A
L551⚠	DEFLECTION YOKE (PB FREE) CDY-MM2102A1	LLBY00Z0X011
SP801	SPEAKER S0407F01A	DSD0807XQ001
SP1801	SPEAKER S0407F01A	DSD0807XQ001
TB1	TRAY CHASSIS T3220UA	1EM021069
TB2	TOP SHIELD T1100UA	1EM320155
TB5	LASER CAUTION LABEL T8200UA	---------
TB7	MODULE PCB HOLDER P7150UZ	1EM322373
TL1-1	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-2	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-3	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL1-4	SCREW P-TIGHT 3X12 WASHER HEAD+	GCJP3120
TL2	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
TL3	SCREW S-TIGHT M3X4 BIND HEAD	GBJS3040
TL4	SCREW P-TIGHT 3X20 BIND HEAD +	GBJP3200
TL5	SCREW P-TIGHT M3X8 BIND HEAD+ BLK	GBHP3080
V501⚠	CRT A51LYW996X	TCRT190MS016
V501-1	C.P.MAGNET JH225-19C	XM04000BV016
V501-2	WEDGE FT-00110W	XV10000T4001
PACKING		
S1	CARTON P7754UT	1EM424234
S2	STYROFORM TOP ASSEMBLY P7754UT	1ESA14155
S3	STYROFORM BOTTOM ASSEMBLY P7754UT	1ESA14156
S4	RFID LABEL P7100UM	---------
S6	SET SHEET B7500UA 1000X1700	0EM402178
S7	HOLD PAD T1100UA	1EM420618
ACCESSORIES		
X1	BAG POLYETHYLENE 235X365XT0.03	0EM408420A
X2⚠	OWNERS MANUAL P7754UT	1EMN22130
X3	REMOTE CONTROL NF109UD 151/ECNX801/ NF109UD	NF109UD

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25% D.....±0.5% F.....±1%

G.....±2% J.....±5% K.....±10%

M.....±20% N.....±30% Z.....+80/-20%

DTV MODULE CBA UNIT

Ref. No.	Description	Part No.
	DTV MODULE CBA UNIT	1ESA14071

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N7CT6KUP

MMA CBA

Ref. No.	Description	Part No.
	MMA CBA Consists of the following:	1ESA14051
	MAIN CBA SENSOR CBA	---------- 1ESA12193

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA Consists of the following:	----------
	CAPACITORS	
C1006	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1008	CERAMIC CAP.(AX) B K 1000pF/50V	CCA1JKT0B102
C1010	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1030	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1034	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1035	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1037	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C1040	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1041	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1043	FILM CAP.(P) 0.018μF/50V J	CMA1JJS00183
C1044	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C1045	CHIP CERAMIC CAP. CH D 3pF/50V	CHD1JD3CH3R0
C1046	ELECTROLYTIC CAP. 1μF/50V M	CE1JMASDL1R0
C1049	CERAMIC CAP.(AX) CH K 2.7pF/50V	CCA1JKTCH2R7
C1050	CHIP CERAMIC CAP. CH D 6pF/50V	CHD1JD3CH6R0
C1121	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1122	CHIP CERAMIC CAP.(1608) CH J 47pF/50V	CHD1JJ3CH470
C1123	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1124	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C1127	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1128	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1129	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1131	CHIP CERAMIC CAP. F Z 0.01μF/50V	CHD1JZ30F103
C1203	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1206	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHD1JZ30F473
C1207	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1208	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1210	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1212	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C1213	CHIP CERAMIC CAP.(1608) CH J 22pF/50V	CHD1JJ3CH220
C1214	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1217	CHIP CERAMIC CAP.(1608) CH D 10pF/50V	CHD1JD3CH100
C1218	CHIP CERAMIC CAP. CH J 15pF/50V	CHD1JJ3CH150
C1220	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1222	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C1223	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1224	CHIP CERAMIC CAP.(1608) B K 1000pF/50V	CHD1JK30B102
C1225	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1234	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1235	CHIP CERAMIC CAP.(1608) B K 0.022μF/50V	CHD1JK30B223
C1239	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1240	CHIP CERAMIC CAP. CH J 560pF/50V	CHD1JJ3CH561
C1241	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1243	ELECTROLYTIC CAP. 22μF/16V M LL	CE1CMASLH220
C1245	ELECTROLYTIC CAP. 47μF/6.3V M	CE0KMASDL470
C1247	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1251	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C1252	ELECTROLYTIC CAP. 100μF/16V M	CE1CMASDL101
C1253	ELECTROLYTIC CAP. 100μF/6.3V M	CE0KMASDL101
C1254	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C1264	CHIP CERAMIC CAP. F Z 0.047μF/50V	CHD1JZ30F473
C1299	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1410	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1411	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C1413	CHIP CERAMIC CAP.(1608) CH J 390pF/50V	CHD1JJ3CH391
C1414	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
C1416	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1417	CHIP CERAMIC CAP. B K 220pF/50V	CHD1JK30B221
C1418	CHIP CERAMIC CAP.(1608) B K 0.1μF/50V	CHD1JK30B104
C1419	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1420	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1421	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1422	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1423	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1424	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1425	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1426	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1427	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1428	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1429	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1430	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1431	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1432	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1435	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C1436	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1437	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1438	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1439	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103

Ref. No.	Description	Part No.
C1441	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1442	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1443	CHIP CERAMIC CAP.(1608) F Z 0.1μF/25V	CHD1EZ30F104
C1444	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C1452	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1463	CHIP CERAMIC CAP. CH J 820pF/25V	CHD1EJ3CH821
C1464	CHIP CERAMIC CAP.(1608) B K 2700pF/50V	CHD1JK30B272
C1465	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1466	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1468	ELECTROLYTIC CAP. 33μF/16V M H7	CE1CMAVSL330
C1469	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1602	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1604⚠	METALIZED FILM CAP. 0.1μF/250V	CT2E104MS037
C1605⚠	METALIZED FILM CAP. 0.22μF/250V	CT2E224MS037
C1610	ELECTROLYTIC CAP. 470μF/200V LX	CA2D471S6017
C1611	CERAMIC CAP. 680pF/2KV	CA3D681PAN04
C1612	FILM CAP.(P) 0.033μF/50V J	CMA1JJS00333
C1613	FILM CAP.(P) 0.0015μF/50V J	CMA1JJS00152
C1614⚠	FILM CAP.(P) 0.082μF/50V J	CMA1JJS00823
C1615	CERAMIC CAP. 560pF/2KV	CA3D561PAN04
C1616	ELECTROLYTIC CAP. 100μF/160V M	CE2CMZPDL101
C1617⚠	ELECTROLYTIC CAP. 470μF/35V M	CE1GMASDL471
C1618	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C1619	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C1621	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C1630⚠	SAFETY CAP. 4700pF/250V KX	CA2E472MR050
C1651	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1652	FILM CAP.(P) 0.0047μF/50V J	CMA1JJS00472
C1653	ELECTROLYTIC CAP. 1000μF/6.3V M	CE0KMASDL102
C1671	CERAMIC CAP. B K 2200pF/500V	CCD2JKS0B222
C1688	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C1689	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C1740	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1747	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1748	CHIP CERAMIC CAP.(1608) B K 0.047μF/50V	CHD1JK30B473
C1752	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1753	ELECTROLYTIC CAP. 10μF/25V M H7	CE1EMAVSL100
C1754	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1755	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1756	ELECTROLYTIC CAP. 10μF/25V M H7	CE1EMAVSL100
C1757	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1758	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1759	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1760	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1762	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1763	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1764	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C1766	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C1769	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1770	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1771	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1772	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1773	ELECTROLYTIC CAP. 10μF/25V M H7	CE1EMAVSL100
C1774	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1775	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1776	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1777	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1778	CHIP CERAMIC CAP.(1608) B K 0.01μF/50V	CHD1JK30B103
C1779	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C1780	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1781	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1782	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1783	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1784	CHIP CERAMIC CAP.(1608) F Z 0.1μF/50V	CHD1JZ30F104
C1786	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1787	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1788	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1789	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C1790	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1791	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1792	ELECTROLYTIC CAP. 4.7μF/50V M H7	CE1JMAVSL4R7
C1793	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1794	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1795	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1797	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C1801	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C1803	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1804	CHIP CERAMIC CAP.(1608) B K 4700pF/50V	CHD1JK30B472
C1807	ELECTROLYTIC CAP. 220μF/16V M	CE1CMASDL221
C1811	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1813	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1814	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C1815	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C1818	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1819	CHIP CERAMIC CAP. F Z 1μF/10V	CHD1AZ30F105
C1821	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASDL471
C1850	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1851	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1852	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1853	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1855	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1856	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C1870	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C1871	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMAVSL101
C1872	CERAMIC CAP. B K 470pF/100V	CCD2AKS0B471
C1873	FILM CAP.(P) 0.018μF/100V J	CMA2AJS00183
C1901	ELECTROLYTIC CAP. 0.47μF/50V M	CE1JMASDLR47
C1903	ELECTROLYTIC CAP. 1000μF/10V M	CE1AMASDL102
C1904	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
C1905	ELECTROLYTIC CAP. 2.2μF/250V M	CA2E2R2S6009
C1906	CERAMIC CAP. B K 330pF/500V	CCD2JKS0B331
C1907	FILM CAP.(P) 0.0015μF/50V J	CMA1JJS00152
C1908	FILM CAP.(P) 0.018μF/50V J	CMA1JJS00183
C1909	CERAMIC CAP.(AX) X M 4700pF/16V	CCA1CMT0X472
C1910	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPDL102
C1912	ELECTROLYTIC CAP. 47μF/16V M	CE1CMASDL470
	CONNECTORS	
CN601A	TERMINAL PRINTBORD PIN MS-PIN155155	JTEA001CHY01
CN601B	TERMINAL PRINTBORD PIN MS-PIN155155	JTEA001CHY01
CN1103	BOARD CONNECTOR 19P(PB FREE) 127301119K2	JCTWA19TG004
CN1104	TWG CONNECTOR 07P TWG-P07P-A1	J3TWA07TG001
CN1301	BOARD CONNECTOR 19P(PB FREE) 127301119K2	JCTWA19TG004
CN1302	BOARD CONNECTOR 19P(PB FREE) 127301119K2	JCTWA19TG004
CN1802	242 SERIES CONNECTOR 224202104W1	J322C04TG001
	DIODES	
D1105	ZENER DIODE MTZJT-775.6C	QDTC0MTZJ5R6
D1108	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1109	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1110	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1111	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1112	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1113	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1204	LED LTL-4214M1	NPQZLTL4214M

Ref. No.	Description	Part No.
D1216	LED LAMP 333GT/F45-50	NPWZ3GTF4550
D1217	LED LTL-4214M1	NPQZLTL4214M
D1224	LED SIR-563ST3F P	QPQPS1R563ST
D1229⚠	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D1230⚠	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D1231	ZENER DIODE MTZJT-7718A	QDTA00MTZJ18
D1238	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D1419	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1420	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1603⚠	DIODE 1N5406	NDLZ001N5406
D1604⚠	DIODE 1N5406	NDLZ001N5406
D1605⚠	DIODE 1N5406	NDLZ001N5406
D1606⚠	DIODE 1N5406	NDLZ001N5406
D1607⚠	ZENER DIODE MTZJT-7724C	QDTC00MTZJ24
D1609	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1610	ZENER DIODE MTZJT-775.6B	QDTB0MTZJ5R6
D1611	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1613⚠	RECOVERY DIODE ERC18-04	QDZZ0ERC1804
D1614⚠	DIODE FR104-B	NDLZ000FR104
D1615⚠	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1616⚠	FAST RECOVERY DIODE FR202	NDWZ000FR202
D1617⚠	SCHOTTKY BARRIER DIODE SB270-B/P	NDWZ000SB270
D1620⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1621	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1622⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1623⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1624⚠	SCHOTTKY BARRIER DIODE SB240-B/P	NDQZ000SB240
D1626	ZENER DIODE MTZJT-7733B	QDTB00MTZJ33
D1627⚠	ZENER DIODE MTZJT-7716B	QDTB00MTZJ16
D1628⚠	SCHOTTKY BARRIER DIODE SB240-B/P	NDQZ000SB240
D1634	ZENER DIODE MTZJT-779.1B	QDTB0MTZJ9R1
D1635	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1636⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1637	DIODE FR104-B	NDLZ000FR104
D1640⚠	DIODE 1ZC36(Q)	QDLZ001ZC36Q
D1641⚠	ZENER DIODE MTZJT-7739B	QDTB00MTZJ39
D1645⚠	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D1682	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1683	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1685⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1687⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1692	PCB JUMPER D0.6-P5.0	JW5.0T
D1811⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1901⚠	DIODE FR104-B	NDLZ000FR104
D1902⚠	DIODE FR154	NDLZ000FR154
D1903⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1904⚠	SCHOTTKY BARRIER DIODE SB140	NDWZ000SB140
D1905	ZENER DIODE MTZJT-776.2C	QDTC0MTZJ6R2
D1906⚠	ZENER DIODE MTZJT-7739B	QDTB00MTZJ39
D1907⚠	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1908	RECTIFIER DIODE BA158	NDQZ000BA158
D1909	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1910⚠	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
ICS		
IC1001	IC VIF/SIF M61116FP TF0G	QSZBA0SHT034
IC1101	VOLTAGE REGULATOR PQ070XF01SZH	QSZBA0SSH054
IC1104	IC EEPROM AT24C128N-10SU-1.8 S	NSZBA0TAZ083
IC1105	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC1106	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
IC1201⚠	MICRO COMPUTER M3776AMFH-BB1GP	QSZAA0RHT160
IC1202	IC(EEP-ROM) M24C04-WMN6TP	NSZAA0TSS015
IC1401	IC Y/C/A LA71205M-MPB-E	QSZBA0RSY037

Ref. No.	Description	Part No.
IC1601⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1682⚠	IC VOLTAGE REGULATOR 5V KIA7805API/P	NSZBA0SJY041
IC1701	IC HIFI LA72670BM-MPB-E	QSZBA0RSY039
IC1803	IC AN17812A	QSZBA0SMS017
IC1850	IC SWITCH TC4053BF(EL N F)	QSZBA0TTS163
IC1901⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1902⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
COILS		
L1001	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L1002	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
L1005	PCB JUMPER D0.6-P5.0	JW5.0T
L1006	PCB JUMPER D0.6-P5.0	JW5.0T
L1031	PCB JUMPER D0.6-P5.0	JW5.0T
L1032	PCB JUMPER D0.6-P5.0	JW5.0T
L1033	INDUCTOR 150μH-J-26T	LLAXJATTU151
L1112	PCB JUMPER D0.6-P5.0	JW5.0T
L1202	INDUCTOR 0.10μH-K-26T	LLAXKATTUR10
L1601⚠	LINE FILTER JLB20102	LLEG0Z0XB006
L1872	INDUCTOR 47μH-K-5FT	LLARKBSTU470
TRANSISTORS		
Q1103	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1104	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
Q1105	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1106	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1107	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1108	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1109	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1110	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1112	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1113	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1205	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1206	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q1207	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1208	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1209	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1210	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1221	RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q1401	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1402	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1403	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1404	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1601⚠	MOS FET 2SK3563	QFWZ02SK3563
Q1602⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1604⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1605	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1607⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1613⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1614⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1681⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1688⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1689⚠	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1701	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1850	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1871	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1872	TRANSISTOR 2SC2120-O(TE2 F T)	QQS02SC2120F
Q1873	TRANSISTOR 2SC3331(T)	QSC3331TNPAA
Q1874	TRANSISTOR 2SC3331(T)	QSC3331TNPAA
Q1875	RES. BUILT-IN TRANSISTOR KRA103M-AT/P	NQSZ0KRA103M
Q1901	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q1902⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1903⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1904⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P

Ref. No.	Description	Part No.
Q1905⚠	FET 2SK3757(Q)	QFWZ02SK3757
Q1906	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q1907⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q1908⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
	RESISTORS	
R1001	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1002	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1004	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1005	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1031	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1032	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1033	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R1034	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1037	CHIP RES. 1/10W J 180 Ω	RRXAJR5Z0181
R1038	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1039	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1040	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1041	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1042	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1043	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1049	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1050	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1109	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1120	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1121	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1122	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1123	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1124	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1126	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1127	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1128	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1129	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1130	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1131	METAL OXIDE FILM RES. 1W J 8.2 Ω	RN018R2ZU001
R1140	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1141	CHIP RES. 1/10W J 56k Ω	RRXAJR5Z0563
R1143	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1145	CARBON RES. 1/4W J 12 Ω	RCX4JATZ0120
R1146	CARBON RES. 1/4W J 2.7 Ω	RCX4JATZ02R7
R1147	CARBON RES. 1/4W J 12 Ω	RCX4JATZ0120
R1148	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R1149	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1150	CARBON RES. 1/4W J 2.2 Ω	RCX4JATZ02R2
R1151	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1152	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R1153	CHIP RES. 1/10W F 220 Ω	RRXAFR5H2200
R1154	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1155	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1156	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1157	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1158	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1159	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1160	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1161	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1162	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1164	METAL OXIDE FILM RES. 1W J 0.39 Ω	RN01R39ZU001
R1165	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1166	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1167	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1168	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1170	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1171	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002

Ref. No.	Description	Part No.
R1172	CHIP RES. 1/10W F 150 Ω	RRXAFR5H1500
R1173	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1174	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R1175	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1176	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R1177	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R1178	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R1179	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1180	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1200	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1201	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1202	CHIP RES. 1/10W F 22k Ω	RRXAFR5H2202
R1203	CHIP RES. 1/10W F 470 Ω	RRXAFR5H4700
R1204	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1205	CHIP RES. 1/10W F 3.6k Ω	RRXAFR5H3601
R1206	CHIP RES. 1/10W F 10k Ω	RRXAFR5H1002
R1208⚠	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1209	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1210	CHIP RES. 1/10W F 15k Ω	RRXAFR5H1502
R1211	CHIP RES. 1/10W F 6.8k Ω	RRXAFR5H6801
R1212	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R1213	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1214	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1215	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1216	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R1217	CHIP RES. 1/10W F 2.2k Ω	RRXAFR5H2201
R1218	CHIP RES. 1/10W F 2.7k Ω	RRXAFR5H2701
R1219	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1220	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R1221	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1222	CHIP RES. 1/10W J 390k Ω	RRXAJR5Z0394
R1224	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1225	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1226	CHIP RES. 1/10W J 27k Ω	RRXAJR5Z0273
R1227	CHIP RES. 1/10W J 270 Ω	RRXAJR5Z0271
R1228	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1229	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1230	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1231	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1232	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1233	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1234	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R1235	CHIP RES. 1/10W J 47 Ω	RRXAJR5Z0470
R1236	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1237	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1238	CHIP RES. 1/10W J 470k Ω	RRXAJR5Z0474
R1239	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1240	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1241	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1242	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1243	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1244	CHIP RES. 1/10W J 1M Ω	RRXAJR5Z0105
R1245	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1246	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1247	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1248	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1249	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1250	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1251	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1252	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1253	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R1254	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1255	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000

Ref. No.	Description	Part No.
R1257	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1258	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1259	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1260	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1261⚠	METAL OXIDE FILM RES. 2W J 2.2 Ω	RN022R2ZU001
R1262	CHIP RES. 1/10W J 680 Ω	RRXAJR5Z0681
R1263	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R1264	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1267	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R1270	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1273	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1274	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1277	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1280	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1283	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1284	CHIP RES. 1/10W J 220k Ω	RRXAJR5Z0224
R1285	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1286	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1287	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R1289	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1290	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1291	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1292	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1293	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1294	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1298	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1299	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1405	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1406	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1407	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1408	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1409	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1410	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1411	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1412	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1413	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1415	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R1416	CHIP RES. 1/10W J 330k Ω	RRXAJR5Z0334
R1417	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R1418	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1419	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R1420	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R1421	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1422	CHIP RES. 1/10W J 270 Ω	RRXAJR5Z0271
R1423	CHIP RES. 1/10W J 390 Ω	RRXAJR5Z0391
R1424	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1425	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R1426	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1427	CHIP RES. 1/10W J 820 Ω	RRXAJR5Z0821
R1428	CHIP RES. 1/10W J 680k Ω	RRXAJR5Z0684
R1429	CHIP RES. 1/10W J 1.2k Ω	RRXAJR5Z0122
R1431	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1432	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1437	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1438	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1602⚠	CEMENT RES 5W K 1.2 Ω	RW051R2PG002
R1603⚠	METAL OXIDE FILM RES. 2W J 0.33 Ω	RN02R33ZU001
R1604	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R1605	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R1606	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1607	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1608	CARBON RES. 1/4W J 180k Ω	RCX4JATZ0184
R1609	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100

Ref. No.	Description	Part No.
R1610	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1613	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R1614	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1617⚠	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1618⚠	PCB JUMPER D0.6-P5.0	JW5.0T
R1619⚠	METAL OXIDE FILM RES. 1W J 2.2k Ω	RN01222ZU001
R1620⚠	METAL OXIDE FILM RES. 1W J 2.2k Ω	RN01222ZU001
R1621	METAL OXIDE FILM RES. 1W J 4.7k Ω	RN01472ZU001
R1623⚠	CARBON RES. 1/4W J 33k Ω	RCX4JATZ0333
R1624⚠	CARBON RES. 1/4W G 47k Ω	RCX4GATZ0473
R1625⚠	CARBON RES. 1/4W G 39k Ω	RCX4GATZ0393
R1629⚠	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133
R1630⚠	CARBON RES. 1/4W J 13k Ω	RCX4JATZ0133
R1631⚠	CARBON RES. 1/4W J 12k Ω	RCX4JATZ0123
R1632⚠	CARBON RES. 1/4W G 560 Ω	RCX4GATZ0561
R1633⚠	CARBON RES. 1/4W G 5.6k Ω	RCX4GATZ0562
R1634	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1635	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R1636⚠	METAL OXIDE FILM RES. 1W J 2.2k Ω	RN01222ZU001
R1637⚠	PCB JUMPER D0.6-P5.0	JW5.0T
R1639	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1640	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1642⚠	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1644	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1650	METAL OXIDE FILM RES. 1W J 4.7k Ω	RN01472ZU001
R1654	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R1655	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R1656	PCB JUMPER D0.6-P5.0	JW5.0T
R1657	CARBON RES. 1/4W J 2.7 Ω	RCX4JATZ02R7
R1662⚠	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R1663	CARBON RES. 1/4W J 560k Ω	RCX4JATZ0564
R1685	METAL OXIDE FILM RES. 1W J 8.2 Ω	RN018R2ZU001
R1686	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R1687	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R1688	CARBON RES. 1/2W J 12 Ω	RCX2JZQZ0120
R1689	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R1691	CARBON RES. 1/4W J 8.2 Ω	RCX4JATZ08R2
R1692	CARBON RES. 1/2W J 18 Ω	RCX2JZQZ0180
R1693	CARBON RES. 1/2W J 18 Ω	RCX2JZQZ0180
R1694	CARBON RES. 1/4W J 1.5 Ω	RCX4JATZ01R5
R1701	CHIP RES. 1/10W J 75 Ω	RRXAJR5Z0750
R1751	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1752	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R1753	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1754	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1755	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R1756	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1757	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1758	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1759	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1760	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1761	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1762	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1763	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1764	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1765	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1769	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1772	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1773	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1774	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1780	CHIP RES. 1/10W J 6.8k Ω	RRXAJR5Z0682
R1781	CHIP RES. 1/10W J 8.2k Ω	RRXAJR5Z0822
R1801⚠	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181

Ref. No.	Description	Part No.
R1802⚠	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1803⚠	METAL OXIDE FILM RES. 1W J 18 Ω	RN01180ZU001
R1804	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1805	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1806	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1807	CHIP RES. 1/10W J 1.8k Ω	RRXAJR5Z0182
R1808⚠	METAL OXIDE FILM RES. 1W J 18 Ω	RN01180ZU001
R1809	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1810	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1813	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1814	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1815	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1816	CHIP RES. 1/10W J 33k Ω	RRXAJR5Z0333
R1850	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1851	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1852	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1853	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1854	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1855	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1856	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1857	CHIP RES. 1/10W J 100k Ω	RRXAJR5Z0104
R1858	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1859	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1860	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R1871	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R1872	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R1873	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1874	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R1875	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1876	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R1877	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R1901	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R1902	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1903	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R1904	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R1905	CHIP RES. 1/10W J 3.3 Ω	RRXAJR5Z03R3
R1907	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1908	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R1909	CHIP RES. 1/10W F 3.9k Ω	RRXAFR5H3901
R1910	CHIP RES. 1/10W F 560 Ω	RRXAFR5H5600
R1911	CHIP RES. 1/10W F 8.2k Ω	RRXAFR5H8201
R1913	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1914	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R1915⚠	METAL OXIDE FILM RES. 1W J 1.2 Ω	RN011R2ZU001
R1916	CARBON RES. 1/4W J 39k Ω	RCX4JATZ0393
R1917	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1919	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R1920	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1921	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1923⚠	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1924	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1925	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R1926	CARBON RES. 1/4W J 15k Ω	RCX4JATZ0153
R1927	CHIP RES. 1/10W J 18k Ω	RRXAJR5Z0183
R1928	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R1929	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
SWITCHES		
SW1201	TACT SWITCH SKQSAB	SST0101AL038
SW1202	TACT SWITCH SKQSAB	SST0101AL038
SW1203	TACT SWITCH SKQSAB	SST0101AL038
SW1206	TACT SWITCH SKQSAB	SST0101AL038
SW1207	TACT SWITCH SKQSAB	SST0101AL038
SW1208	TACT SWITCH SKQSAB	SST0101AL038
SW1209	TACT SWITCH SKQSAB	SST0101AL038
SW1210	TACT SWITCH SKQSAB	SST0101AL038
SW1211	LEAF SWITCH LSA-1142-2AU	SSC0101KB014
SW1212	SWITCH ROTARY SSS-53MD-1	SSR0106KB004
MISCELLANEOUS		
BC1001	PCB JUMPER D0.6-P5.0	JW5.0T
BC1100	PCB JUMPER D0.6-P5.0	JW5.0T
BC1600	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
BC1606	BEADS INDUCTOR FBR07HA121SB-00	LLBF00STU030
CF1032	CERAMIC SIF FILTER EFCS4R5YS8P	FBB455LMS001
CL1201	FMN CONNECTOR TOP 12P 12FMN-BTRK-A(LF)(SN)	JCFNG12JG020
F1601⚠	FUSE 4.00A/125V	PAGG20CNG402
FH1601	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
FH1602	FUSE HOLDER MSF-015 LF (B110)	XH01Z00LY002
JK1701	RCA JACK(YELLOW) (PB FREE) AV-3B-54H	JXRL010SNJ01
JK1702	RCA JACK(WHITE) MTJ-032-05B-22(B110)	JXRL010LY136
JK1703	RCA JACK(RED) (PB FREE) AV-3A-57H	JYRL010SNJ01
JK1801	MINIATURE JACK(PB FREE) CKX-035-318AZ4	JYSL010SNJ01
PS1601⚠	THERMISTOR ZPB45BL3R0A	QNBZ45BL3R0A
RS1201	SENSOR REMOTE RECEIVER KSM-602LU2S	USESJRSKK048
SA1601⚠	SURGE ABSORBER 470V+-10PER	NVQZ10D471KB
SF1001	FILTER CERAMIC BAND PASS SAFHS45M7VAJZ00B05	FBB456LMR004
T1601⚠	TRANS POWER BCK-35-0396	LTT3PC0XB013
T1901⚠	TRANS POWER BCK-25-0127	LTT2PC0XB014
TB3	HEAD SHIELD T1200UA	1EM321250
TB8	BUSH LED(F) H3700UD	0VM409508
TB9	MODULE HEAT SINK PMC P7150UT	1EM423968
TB10	X8 MAIN HEAT SINK PLY ASSEMBLY P7750UM	1EM423970
TL2	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
TP1202	PCB JUMPER D0.6-P21.0	JW21.0T
TP1401	PCB JUMPER D0.6-P24.0	JW24.0T
TP1402	PCB JUMPER D0.6-P22.0	JW22.0T
TP1403	PCB JUMPER D0.6-P22.0	JW22.0T
TP1703	PCB JUMPER D0.6-P7.5	JW7.5T
TU1010	TUNER UNIT ENV56M07D8F	UTUNATSMS001
W1601⚠	AC CORD (PB FREE) A0A0280-014	WAC0172LTE14
VR1601⚠	CARBON P.O.T. VZ067TL1 B103 PB(F)	VRCB103HH014
X1201	XTAL DT38 32.768kHz	FX0323LDS001
X1202	XTAL HC-49/U 10.6MHz	FXD106LLN001
X1401	XTAL 3.579545MHz(20PPM)	FXC355LLN004
SG1601⚠	GAP. FNR-G3.10D	FAZ000LD6005

SENSOR CBA

Ref. No.	Description	Part No.
	SENSOR CBA Consists of the following:	1ESA12193
TRANSISTORS		
Q1201	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F
Q1202	PHOTO TRANSISTOR MID-32A22F	NPWZ1D32A22F

MPS CBA

Ref. No.	Description	Part No.
	MPS CBA Consists of the following:	1ESA14054
	SUB CBA (MPS-A) CRT CBA (MPS-B) FUNCTION CBA (MPS-C) JUNCTION-A CBA JUNCTION-B CBA	--------- --------- --------- --------- ---------

SUB CBA

Ref. No.	Description	Part No.
	SUB CBA (MPS-A) Consists of the following:	----------
	CAPACITORS	
C2305	ELECTROLYTIC CAP. 470µF/10V M	CE1AMASDL471
C2307	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C2308	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2309	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C2310	STACKED FILM CAP. 0.47µF/50V J	CMA1JJS00474
C2311	ELECTROLYTIC CAP. 220µF/10V M	CE1AMASDL221
C2315	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2316	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2317	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2318	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2320	ELECTROLYTIC CAP. 100µF/10V M	CE1AMASDL101
C2321	ELECTROLYTIC CAP. 22µF/50V M	CE1JMASDL220
C2322	ELECTROLYTIC CAP. 0.47µF/50V M	CE1JMASDLR47
C2323	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2324	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2326	CHIP CERAMIC CAP.(1608) B K 0.01µF/50V	CHD1JK30B103
C2327	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2328	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2330	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2331	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2332	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2333	CHIP CERAMIC CAP. F Z 1µF/10V	CHD1AZ30F105
C2334	ELECTROLYTIC CAP. 1µF/50V M	CE1JMASDL1R0
C2531	METALIZED FILM CAP. 0.27µF/200V J	CT2D274F7003
C2533⚠	P.P. CAP 0.0082µF/1.6K J	CA3C822VC011
C2552	FILM CAP.(P) 0.22µF/100V J	CMA2AJS00224
C2553	ELECTROLYTIC CAP. 2.2µF/50V LL	CE1JMASLH2R2
C2555	ELECTROLYTIC CAP. 47µF/35V M	CE1GMASDL470
C2556	ELECTROLYTIC CAP. 1000µF/25V M	CE1EMZPDL102
C2559	ELECTROLYTIC CAP. 220µF/35V M	CE1GMASDL221
C2560	FILM CAP.(P) 0.033µF/50V J	CMA1JJS00333
C2574	ELECTROLYTIC CAP. 4.7µF/250V M	CE2EMASDL4R7
C2577	FILM CAP.(P) 0.022µF/50V J	CMA1JJS00223
C2578	ELECTROLYTIC CAP. 47µF/35V M	CE1GMASDL470
C2583	ELECTROLYTIC CAP. 1µF/160V M	CE2CMASDL1R0
C2584⚠	PCB JUMPER D0.6-P5.0	JW5.0T
C2585	CERAMIC CAP. B K 100pF/500V	CCD2JKS0B101
C2586	ELECTROLYTIC CAP. 4.7µF/50V M	CE1JMASDL4R7
C2590	CHIP CERAMIC CAP. F Z 0.01µF/50V	CHD1JZ30F103
C2592	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASDL470
C2594	ELECTROLYTIC CAP. 47µF/160V M W/F	CE2CMZNDL470
C2595⚠	CERAMIC CAP. 1200pF/2KV	CA3D122PAN04
C2596	PCB JUMPER D0.6-P5.0	JW5.0T
C2601	CHIP CERAMIC CAP.(1608) F Z 0.1µF/25V	CHD1EZ30F104
C2603	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASDL102
C2605	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2606	CHIP CERAMIC CAP.(1608) CH J 100pF/50V	CHD1JJ3CH101
C2609	ELECTROLYTIC CAP. 47µF/50V M	CE1JMASDL470
C2616	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASDL101
C2629	ELECTROLYTIC CAP. 220µF/6.3V M	CE0KMASDL221
C2630	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASDL471
C2670	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASDL471
	CONNECTORS	
CN2103	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2301	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2302	TWG CONNECTOR 19P TWG-P19P-A1	J3TWA19TG001
CN2571⚠	CONNECTOR PRINT OSU 5P RTB-1.5-5P (LF)	J3RTC05JG002

Ref. No.	Description	Part No.
	DIODES	
D2300	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2301	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2302	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2304	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2305	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2307	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2308	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2552⚠	DIODE FR104-B	NDLZ000FR104
D2571	FAST RECOVERY DIODE FR202	NDWZ000FR202
D2572⚠	DIODE FR104-B	NDLZ000FR104
D2575⚠	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D2584	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2585	ZENER DIODE MTZJT-775.1B	QDTB0MTZJ5R1
D2586	PCB JUMPER D0.6-P5.0	JW5.0T
D2591⚠	ZENER DIODE MTZJT-7736B	QDTB00MTZJ36
D2595⚠	ZENER DIODE MTZJT-7722C	QDTC00MTZJ22
D2596⚠	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2597	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2598⚠	DIODE FR104-B	NDLZ000FR104
D2599	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
D2603⚠	ZENER DIODE MTZJT-775.6C	QDTC0MTZJ5R6
D2618	ZENER DIODE MTZJT-773.9A	QDTA0MTZJ3R9
D2627	ZENER DIODE MTZJT-773.9B	QDTB0MTZJ3R9
D2651	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2652	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2661	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2662	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
	ICS	
IC2301⚠	VCD IC M61276FP TF0H	QSZAB0RMB134
IC2551⚠	VERTICAL OUTPUT IC LA78040A	QSBBA0SSY003
IC2602⚠	VOLTAGE REGULATOR TLV1117IDCYRG3	NSZBA0TTY219
IC3603	IC SHUNT REGULATOR KIA431-AT/P	NSZBA0TJY036
	COILS	
L2505	CHOKE COIL 22µH-K	LLBD00PKV021
L2613	INDUCTOR 10µH-K-5FT	LLARKBSTU100
	TRANSISTORS	
Q2304⚠	NPN TRANSISTOR 2SC1627-Y (TE2.F.T)	QQSY2SC1627F
Q2305⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2571⚠	TRANSISTOR 2SC5885000RF	QQZZ02SC5885
Q2591⚠	NPN TRANSISTOR 2SC1627-Y (TE2.F.T)	QQSY2SC1627F
Q2592⚠	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2601	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2608	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2609	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2610⚠	TRANSISTOR KTA1267-GR-AT/P	NQS1KTA1267P
Q2611⚠	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q2612	TRANSISTOR KTC3199-GR-AT/P	NQS4KTC3199P
Q2615⚠	TRANSISTOR 2SD400(F)	QQUF002SD400
Q2616	NPN TRANSISTOR KRC103M-AT/P	NQSZKRC103MP
Q2617⚠	TRANSISTOR KTC3199-Y-AT/P	NQSYKTC3199P
Q2618⚠	TRANSISTOR 2SA950-O (TE2 F T)	QQS002SA950F
	RESISTORS	
R2301	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R2303	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R2305	CHIP RES. 1/10W J 330 Ω	RRXAJR5Z0331
R2306	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R2307	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2309	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2310	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2311	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2319	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153

Ref. No.	Description	Part No.
R2321	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R2322	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R2323	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2324	CHIP RES. 1/10W J 3.3k Ω	RRXAJR5Z0332
R2325	CHIP RES. 1/10W J 3.3M Ω	RRXAJR5Z0335
R2326	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2327	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2328	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2331	CHIP RES. 1/10W J 180k Ω	RRXAJR5Z0184
R2332	CHIP RES. 1/10W J 120k Ω	RRXAJR5Z0124
R2333	CARBON RES. 1/4W J 18 Ω	RCX4JATZ0180
R2501	CHIP RES. 1/10W J 39k Ω	RRXAJR5Z0393
R2504	CHIP RES. 1/10W J 15k Ω	RRXAJR5Z0153
R2505	METAL OXIDE FILM RES. 2W J 1k Ω	RN02102ZU001
R2506	METAL OXIDE FILM RES. 2W J 1k Ω	RN02102ZU001
R2541	CARBON RES. 1/4W J 3.3k Ω	RCX4JATZ0332
R2550	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2551	CHIP RES. 1/10W J 1.5k Ω	RRXAJR5Z0152
R2552	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2555	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2556	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R2557	CHIP RES. 1/10W J 10k Ω	RRXAJR5Z0103
R2558	CHIP RES. 1/10W J 12k Ω	RRXAJR5Z0123
R2559	CHIP RES.(1608) 1/10W 0 Ω	RRXAJR5Z0000
R2560	CHIP RES. 1/10W J 2.7k Ω	RRXAJR5Z0272
R2561	CHIP RES. 1/10W J 3.9k Ω	RRXAJR5Z0392
R2562	CARBON RES. 1/4W J 6.8 Ω	RCX4JATZ06R8
R2563	CARBON RES. 1/4W J 6.8 Ω	RCX4JATZ06R8
R2564	CARBON RES. 1/4W J 6.8 Ω	RCX4JATZ06R8
R2565	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2566	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2571	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2572	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2573	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2576	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2577	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R2580⚠	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R2581	CHIP RES. 1/10W J 470 Ω	RRXAJR5Z0471
R2583⚠	METAL RESISTER. 2W J 2.7 Ω	RN022R7ZU001
R2584	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R2585	CHIP RES. 1/10W J 4.7k Ω	RRXAJR5Z0472
R2586	PCB JUMPER D0.6-P5.0	JW5.0T
R2587	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R2588	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R2589⚠	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270
R2590⚠	CARBON RES. 1/4W J 27 Ω	RCX4JATZ0270
R2591	CARBON RES. 1/4W J 22k Ω	RCX4JATZ0223
R2592⚠	CARBON RES. 1/4W G 180k Ω	RCX4GATZ0184
R2593⚠	CARBON RES. 1/4W G 82k Ω	RCX4GATZ0823
R2594	CARBON RES. 1/4W G 56k Ω	RCX4GATZ0563
R2599	CHIP RES. 1/10W J 5.6k Ω	RRXAJR5Z0562
R2601	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2602	CHIP RES. 1/10W J 560 Ω	RRXAJR5Z0561
R2603	CHIP RES. 1/10W J 2.2k Ω	RRXAJR5Z0222
R2604	CHIP RES. 1/10W J 2k Ω	RRXAJR5Z0202
R2607	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2608	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2609	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R2610	CARBON RES. 1/4W J 75 Ω	RCX4JATZ0750
R2611	CHIP RES. 1/10W J 100 Ω	RRXAJR5Z0101
R2613	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R2617	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R2618	CARBON RES. 1/4W J 390 Ω	RCX4JATZ0391
R2649⚠	CARBON RES. 1/4W J 5.6 Ω	RCX4JATZ05R6
R2650	CARBON RES. 1/4W J 1.2 Ω	RCX4JATZ01R2
R2651	CHIP RES. 1/10W J 47k Ω	RRXAJR5Z0473
R2653	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
R2655	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R2656	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R2657	CHIP RES. 1/10W J 22k Ω	RRXAJR5Z0223
R2658	CHIP RES. 1/10W J 1k Ω	RRXAJR5Z0102
R2659	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R2660	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R2675	CHIP RES. 1/10W J 150 Ω	RRXAJR5Z0151
R2676	CHIP RES. 1/10W J 82k Ω	RRXAJR5Z0823
R2677	METAL OXIDE FILM RES. 1/2W J 0.47 Ω	RNX2JZPZ0R47
R2678	CHIP RES. 1/10W J 220 Ω	RRXAJR5Z0221
R2680	RES CHIP.(1608) 1/10W J 0.30 Ω	RRXAR30HH007
R2681	RES CHIP.(1608) 1/10W J 0.30 Ω	RRXAR30HH007
R2686	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R2687	CHIP RES. 1/10W F 5.6k Ω	RRXAFR5H5601
R2688	CHIP RES. 1/10W F 15k Ω	RRXAFR5H1502
R2691	CARBON RES. 1/4W J 1 Ω	RCX4JATZ01R0
R2692	CHIP RES. 1/10W J 130 Ω	RRXAJR5Z0131
R2693	CHIP RES. 1/10W J 130 Ω	RRXAJR5Z0131
R3521⚠	METAL OXIDE FILM RES. 1W J 10 Ω	RN01100ZU001
R3568⚠	CARBON RES. 1/4W J 3.3 Ω	RCX4JATZ03R3
R3576	PCB JUMPER D0.6-P5.0	JW5.0T
R3580⚠	CARBON RES. 1/4W J 33 Ω	RCX4JATZ0330
	MISCELLANEOUS	
BC2501	BEAD INDUCTOR FBA04HA600VB-00	LLBF00STU026
CL2501	LEAD WIRE 3P 420MM	WX1T1000-001
CL2504	LEAD WIRE 5P 330MM	WX1T2120-001
JK2601	JACK RCA PCB L MSP-241V-05 NI LFW/O	JXRL010LY148
T2571⚠	TRANS FBT JF0501-3201A-G	LTF00CPXB048
T2572⚠	HORIZONTAL DRIVE TRANS LP2-005	LTH00CPA5005
TB11	X8 H/V HEAT SINK PLZ P7750UM	1EM423971
TL2	SCREW B-TIGHT D3X8 BIND HEAD+	GBJB3080
TP1301	PCB JUMPER D0.6-P7.5	JW7.5T
TP1302	PCB JUMPER D0.6-P7.5	JW7.5T
TP1303	PCB JUMPER D0.6-P7.5	JW7.5T
TP2501	PCB JUMPER D0.6-P10.0	JW10.0T
TP2502	PCB JUMPER D0.6-P27.5	JW27.5T
TP2503	PCB JUMPER D0.6-P14.0	JW14.0T
TP2504	PCB JUMPER D0.6-P18.0	JW18.0T
TP2505	PCB JUMPER D0.6-P14.0	JW14.0T
TP2506	PCB JUMPER D0.6-P11.0	JW11.0T
X2301	XTAL 3.579545 MHz	FXD355LLN003

CRT CBA

Ref. No.	Description	Part No.
	CRT CBA (MPS-B) Consists of the following:	----------
	CAPACITORS	
C2504	CERAMIC CAP.(AX) B J 390pF/50V	CCA1JJT0B391
C2505	CERAMIC CAP.(AX) B J 330pF/50V	CCA1JJT0B331
C2506	CERAMIC CAP.(AX) B J 330pF/50V	CCA1JJT0B331
C2508	ELECTROLYTIC CAP. 47μF/25V M	CE1EMASDL470
C2509⚠	CERAMIC CAP. B K 1000pF/2KV	CCD3DKP0B102
	CONNECTOR	
CN2501	CONNECTOR PIN 1P RT-01N-2.3A	1730688
	DIODES	
D2501	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2502	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2503	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133

Ref. No.	Description	Part No.
D2505	PCB JUMPER D0.6-P5.0	JW5.0T
	COIL	
L2501	INDUCTOR 180μH-J-5FT	LLARJCSTU181
	TRANSISTORS	
Q2501⚠	NPN TRANSISTOR 2SC2482(T6FUNAIF M	QRSZ2SC2482F
Q2502⚠	NPN TRANSISTOR 2SC2482(T6FUNAIF M	QRSZ2SC2482F
Q2503⚠	NPN TRANSISTOR 2SC2482(T6FUNAIF M	QRSZ2SC2482F
	RESISTORS	
R2502	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2503	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2507	CHIP RES. 1/10W J 33 Ω	RRXAJR5Z0330
R2508	CHIP RES. 1/10W J 33 Ω	RRXAJR5Z0330
R2509	CHIP RES. 1/10W J 33 Ω	RRXAJR5Z0330
R2510	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2511	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2512	CARBON RES. 1/4W J 5.6k Ω	RCX4JATZ0562
R2513	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R2514	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R2515	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R2516⚠	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153DP003
R2517⚠	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153DP003
R2518⚠	METAL OXIDE FILM RES. 1W J 15k Ω	RN01153DP003
R2519	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2520	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2521	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
R2523	CARBON RES. 1/4W J 1.5k Ω	RCX4JATZ0152
	MISCELLANEOUS	
JK2501⚠	CRT SOCKET ISMP02S	JSCC220PK009

FUNCTION CBA

Ref. No.	Description	Part No.
	FUNCTION CBA (MPS-C) Consists of the following:	----------
	CONNECTORS	
CN2401	BOARD CONNECTOR 07P(PB FREE) 127301107K2	JCTWA07TG004
CN2801	242 SERIES CONNECTOR 224202104W1	J322C04TG001
	RESISTORS	
R2401	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R2402	CHIP RES. 1/10W F 1.5k Ω	RRXAFR5H1501
R2403	CHIP RES. 1/10W F 2.2k Ω	RRXAFR5H2201
R2404	CHIP RES. 1/10W F 2.7k Ω	RRXAFR5H2701
R2405	CHIP RES. 1/10W F 4.7k Ω	RRXAFR5H4701
R2406	CHIP RES. 1/10W F 6.8k Ω	RRXAFR5H6801
R2407	CHIP RES. 1/10W F 15k Ω	RRXAFR5H1502
	SWITCHES	
SW2401	TACT SWITCH SKQSAB	SST0101AL038
SW2402	TACT SWITCH SKQSAB	SST0101AL038
SW2403	TACT SWITCH SKQSAB	SST0101AL038
SW2404	TACT SWITCH SKQSAB	SST0101AL038
SW2405	TACT SWITCH SKQSAB	SST0101AL038
SW2406	TACT SWITCH SKQSAB	SST0101AL038
SW2407	TACT SWITCH SKQSAB	SST0101AL038
SW2408	TACT SWITCH SKQSAB	SST0101AL038

JUNCTION-A CBA

Ref. No.	Description	Part No.
	JUNCTION-A CBA Consists of the following:	----------
	CONNECTOR	
CN3802	242 SERIES CONNECTOR TUC-P04X-B1 WHT ST	JCTUB04TG002
	MISCELLANEOUS	
CL3802	WIRE ASSEMBLY 2P 180MM	WX1T9200-005

JUNCTION-B CBA

Ref. No.	Description	Part No.
	JUNCTION-B CBA Consists of the following:	----------
	CONNECTOR	
CN3801	242 SERIES CONNECTOR TUC-P04X-B1 WHT ST	JCTUB04TG002
	MISCELLANEOUS	
CL3801	WIRE ASSEMBLY 2P 180MM	WX1T9200-005

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